Clinical Lectures ON SPASMODIC ASTHMA.

Delivered at the Hospital for Consumption and Diseases of the Chest, Brompton.

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LECTURE I.

GENTLEMEN,—I propose to take as the subject of my lectures this summer Spasmodic Asthma; and I do this, not from a sense of being specially fitted to demonstrate this extraordinary complaint, but because it is one of which examples are often to be found in our wards; and as it is the object of this course of lectures, which my colleagues and I propose to give, to lay before you the clinical wealth of the hospital, it is only right that so remarkable a disease as spasmodic asthma should have its fair share of notice. And, in sooth, it is a very striking malady. To see an individual, apparently in the full enjoyment of active health, suddenly transformed into a wheezing, half-strangled, wretched being, chained to one posture, entirely engrossed in speechless struggle with some invisible foe, his whole aspect telling how he would give body and soul for one long clear breath, is a sight which recalls to our mind the time when evil spirits were wont to take possession of men's bodies and to turn them hither and thither according to their airy will. The weird, inharmonious sounds the patient emits; his helplessness, in spite of all we can do, to perform in a satisfactory manner the one simple act so easily, unconsciously, and noiselessly performed at other times; the sudden onset, and often as sudden departure, of the seizure,—all combine as incidents to complete the illusion.

Let us for a moment glance at the natural history of a typical asthmatic attack. The patient goes to bed with little or no premonitory symptoms and sleeps for some hours, but is awoke in the late night or early morning by a feeling of oppression approaching to suffocation, referred either to the throat, sternum, or epigastrium. He is obliged to sit up, and he soon finds himself in full tilt with his invisible but relentless foe. The time of attack varies much, but, as a rule, it occurs during the hours of sleep, and is connected with the prone position and the tendency of the nervous system towards reflex acts during the hours of slumber. Two o'clock in the morning is the classic hour, but with many the time of sunrise is the most probable period of attack. Sometimes, however, the onset is more gradual. The patient may retire to rest with uneasy sensations, but nevertheless drop off to sleep, and in the midst of this the wheezing may commence. At first it may not be sufficient to rouse him, but only render his dreams the reverse of pleasant. The breathing is accompanied by a humming sound like that of a mosquito—the tocsin of the attack. It gradually develops into the usual discordant sound, which, to use Dr. Salter's apt expression, is as if a whole chorus of fiddles were tuning up in the patient's chest, who, for all that, may be less disturbed than those around him by the noise. At length, however, the dyspnœa becomes sufficient to preclude sleep, and he sits up, wide awake, labouring hard for breath. He endeavours to increase the capacity of his chest to the utmost, and for this purpose he fixes his shoulders either by resting on his hands or by supporting the elbows on the knees, or, should he be in a standing position, by leaning on some piece of furniture, as, for instance, the back of a chair or a chest of drawers. In this position he remains immovable, unable to speak or even to turn his head—his chest, back, shoulders, and head fixed,—utterly absorbed in his struggle for breath, and either seemingly indifferent to external objects, or indicating by impatient gestures to those who foolishly crowd around him with offers of assistance that he much prefers their room to their company. His lips are parted; his face is pale and anxious, and, if the dyspnœa continues, it becomes livid; the eyes are widely open, and sometimes prominent and watery.

In viewing the patient more closely, we notice that every muscle of respiration, both ordinary and extraordinary, is brought into requisition; we see the muscles which pass from the head to the shoulders, to the clavicles, and to the ribs, rigid, and, in place of moving the head and neck, acting in the reverse way, and using these as fixed points to raise and dilate the thorax. We see the trapezii and the levatores anguli scapulæ by their contraction raising the shoulders as high as the ears, in order that the muscles connecting the shoulders and ribs may act as elevators of the latter. Even the muscles of the back are pressed into the service, and they almost cease to support the trunk; consequently the patient stoops. At each inspiration the sterno-cleido-mastoids stand out like cords and cause a deep hollow between their sternal attachments. The jaw is lowered by the action of the mylo- and genio-hyoid muscles, and the patient's mouth is slightly opened. Passing downwards, the diaphragm is found contracted, and consequently the liver, stomach, and heart are somewhat displaced. The striking feature is, that with all this display of muscular force, the chest remains almost motionless; air is certainly taken in, but it is taken in only to be locked up in the thorax, which increases in girth to the extent of some inches. There is, unfortunately, but little change of air, as the amount expired is almost *nil*.

Heurtaux made some observations on the expired air, and found the oxygen absent and entirely replaced by carbonic acid, which amounted to from 6 to 11 per cent., the nitrogen being 89 to 93 per cent. The ordinary amount of carbonic acid expired is about 4½ per cent. M. Sée remarks: "The arrest of the expiration could account for the excess of carbonic acid, but the complete disappearance of the oxygen cannot be explained except by the gas not being absorbed. Therefore," he says, "oxidation of tissues must stop during the paroxysm, and the pale colour of the urine rather affirms this."*

But to return to the patient. The breathing is characteristic: although the dyspnœa is so great, the respirations are not hurried, but, on the other hand, somewhat slow, seldom exceeding 32, and sometimes falling to 9 per minute. It is, however, in the ratio of inspiration to expiration that the chief peculiarity of asthmatic breathing lies, for the inspiration is short and occupies but a small part of the respiratory act, whereas the expiration is prolonged and often takes up three or four times the period of the inspiration; thus I have seen the inspiration take one or two seconds, and the expiration four or eight. The pulse is generally feeble and slow, rarely exceeding 90. In cases of considerable emphysema it becomes intermittent. The temperature is low, not exceeding 99°, and often below 98° Fahr.

Physical examination reveals less than might be expected under the circumstances. We find the percussion note somewhat raised in the posterior regions of the chest, and this may be assigned to the presence of emphysema arising from the violent expiratory efforts, and which is the more probable as this percussion note is generally transient, disappearing with the attack. We often also get a transient drum-like sound in the lower posterior regions of the thorax, and this is to be assigned to the same cause.

Auscultation shows an entire abolition of the normal breath-sound, and the existence of dry sibilant or sonorous rhonchi scattered through the lungs. These vary much in tone according to the calibre of the contracted bronchial tubes, the smaller tubes giving the high notes and the larger one the deep notes. The result is a chorus of sounds which, when harmonious, resembled the vibrations of an Æolian harp when the wind sighs among its strings, and when discordant, as they usually are, can only be compared to the melancholy wails issuing from a crowded slaughter-house. What, however, is most important to notice is that they are heard in all parts of the lungs, and that they are continually changing their position, so that at a spot where a loud sibilus was audible a few minutes ago profound silence may reign, and, on the other hand, a sonorous rhonchus may spring up in some quiet spot under the listening ear, and as quickly vanish again. The shifting character of the physical signs is an important element in

* Dictionnaire de Médecine et de Chirurgie Pratique, t. iii., p. 615.

the diagnosis of the disease, and points clearly to the causation being of a spasmodic kind.

The attack, when once established, may last for periods varying from half an hour to some days. Its termination is generally marked by expectoration. This, when the attack is short and the disease only established for a brief period, is thin and transparent; but where the attack lasts some time and the disease is chronic, it is abundant, and more or less opaque. During the fit, whatever be its length, little or nothing in the way of food is taken. A large quantity of light-coloured urine, of hysterical appearance, is often passed, and a good deal of flatus expelled from the bowels. At the close of the fit the patient generally sinks to sleep exhausted. The recurrence of the attacks, when once they have been excited, is generally periodic; but much depends on the kind of asthma, and on the presence or absence of the exciting cause.

In many cases the patient is quite free from wheezing and dyspnœa in the intervals, and feels and acts like other people. This is generally the case when the attacks do not follow each other frequently; but, when they do, the patient remains in a more or less wheezy condition between them, and a few signs of obstructed breathing are generally to be detected in the interscapular regions.

Again, if the fits become habitual, we see their evil effects on the frame and organs implicated. The shoulders become raised, and the head buried between them; the muscles of the back, owing to their being called on to act as extraordinary muscles of respiration, are diverted from their ordinary function as erectors of the spine. The spine yields in the anterior direction, and the patient stoops.

Dr. Salter, who furnishes the above theory of the asthmatic stoop,* also gives a good proof of its probability. "A man in the prime of life with an erect figure, who never had anything the matter with his spine in any way, was seized with severe rheumatism in the muscles of the back, and the pain was so aggravated, and rendered so intense by attempting to stand upright, that the muscles refused to perform their office. The unsupported spine bent forward as far as its elasticity would permit, and the back became round, and the gait stooping, like that of an old man. This went on for months without any decided curvature appearing; at length distinct and gradual curvature manifested itself, involving the seventh and eighth dorsal vertebræ to such an extent as to show that their bodies must have undergone some change of shape. The patient recovered from his rheumatism, regained the power of supporting his back, and the curvature was arrested, but it never disappeared. If, then, the loss of power of the spinal muscles paralysed by rheumatic pain is adequate to the production of organic curvature in the way indicated, why should not their paralysis, as erectors of the spine, from their being engrossed in their respiratory action, be attended with the same result?"

The asthmatic stoop, however, must not be confounded with the pigeon-breast deformity which often accompanies, but is not the result of, asthma. Most cases of pigeon-breast are the offspring of rickets in childhood, with its usual accompaniment, bronchitis. A plugging of some of the bronchial tubes causes collapse of a portion of the lung, and external atmospheric pressure soon brings about a flattening of the side overlying the collapsed lung, and, in consequence, prominence of the sternum, the thoracic walls being cartilaginous and yielding in the child. Pigeon-breast is seldom to be found without a clear history of rickets in childhood, and though it favours the occurrence of asthmatic attacks, it can scarcely be assigned as their cause.

But it is not only on the thorax, but also on the lungs and heart, that the asthmatic attacks tell. The frequent occurrence of spasmodic stricture of the bronchi causes some hypertrophy of the muscular coat, and therefore may permanently narrow their calibre. The more common result, however, of asthma is emphysema, which arises, here as elsewhere, on account of the difficulty of expiration. The emphysema is at first temporary, the lungs in the intervals of the fits completely recovering their normal bulk. In time, however, the vesicles become more and more dilated, their septa are ruptured, permanent emphysema becomes established, and the usual displacement of the adjoining organs follows.

* Asthma, second edition, p. 175.

The contraction of the bronchiæ also largely influences the pulmonary vessels, and considerable obstruction in the pulmonary arteries is the result. The vessels become gorged, and sometimes even œdema of the lungs takes place. Where the asthma has been long established and the attacks very frequent, dilatation of the right side of the heart, and marked prominence of the venous system, especially in the head and neck, come on; though it must be admitted that the emphysema accompanying the asthma must be taken into consideration in the explanation of these phenomena.

Let us now glance at the two clinical examples we have before us.

The first is Elizabeth Q——, a married woman aged twenty-nine, under the care of Dr. Pollock, who has kindly allowed me to exhibit her, and to use Mr. Bartlett's careful notes, which are briefly to this effect:—Her mother suffers from attacks of shortness of breath. For the last three years she has been subject to cough and attacks of difficult breathing, occurring regularly at the catamenial periods, and occasionally in the intervals between them. The attacks last from two to nine days, and are very severe, causing great orthopnœa; but when they cease the breathing is quite free. The catamenia and bowels are regular; tongue clean; pulse 100; temperature 98° to 99°; cough troublesome; expectoration frothy, but opaque after an attack, when the urine is pale and abundant. The patient is anæmic and very nervous. She has been in the hospital three months, and during this time has been free from asthma for periods varying from two to fourteen days. The relaxation of the spasm is generally marked by opaque expectoration and the entire disappearance of the physical signs. The patient gets up and goes about like other persons, but has certainly emaciated. During one of her attacks she had well-marked globus hystericus. If we examine her chest during an attack such as is now to a slight extent taking place, we notice the spasm of the muscles already described, and especially the cord-like prominence of the sterno-mastoids, and the deep hollow left between them. The thorax is small and narrow, and slightly hyper-resonant, but there is no displacement of organs. Inspiration is short and harsh; expiration is loud and sonorous, lasting four times the length of inspiration.

This is a case of genuine spasmodic asthma, free from bronchitis and emphysema, and evidently dependent on some nerve storm, which the occurrence of the catamenia lights up.

The second case is that of Fanny H——, aged thirty-six, single, a dressmaker, admitted under Dr. Quain, March 25th, 1873. Grandfather died of heart-disease; paternal uncle, according to her account, of some asthmatic affection. Two brothers and one sister died of phthisis. She has been subject to attacks of shortness of breath, occurring chiefly at night, from childhood. Eleven years ago she had inflammation of the lungs and profuse hæmoptysis, amounting to a quart at a time. Two years ago hæmoptysis recurred, and she was admitted into this hospital. Previous to this last hæmorrhage she was free from asthmatic attacks for as long as a month at a time, but afterwards she has had them every night, and even in the intervals the breathing has been somewhat short. On admission in March cough was troublesome; expectoration frothy; aspect slightly livid; mouth a little open; respiration 24; pulse 88, weak; temperature 99° F. She states that she feels extremes of both heat and cold. The attacks last from one to twenty-four hours, and their termination is marked by the passing of a large quantity of light-coloured urine. Lately she has suffered from pain in the vertex of the skull previous to an attack. Chest barrel-shaped and somewhat distended, but no bulging of the intercostal spaces or retraction of them during inspiration. Circumference through the mammary line measures thirty inches. There is slight collapse under the left clavicle. Chest hyper-resonant throughout; cardiac and hepatic dulness absent. The heart-sounds are audible in the cardiac region, showing that there is no great displacement of that organ, but that the lung in front is emphysematous. Inspiration occupies one second, is harsh, but audible everywhere. Expiration occupies two seconds, and is accompanied by sonorous rhonchus, with a slight wheeze. Some moist sounds are to be heard in the right upper front chest.

This is not a pure case of spasmodic asthma, as the re-

currence of large hæmoptysis with the inflammation of the lung some years ago, and the collapse, rather indicate the existence of old consumption in this case. Moreover, emphysema has now become such a marked feature that her breath is always somewhat short. The asthma, however, still asserts itself, and she has attacks of a true spasmodic character every day.

We must bear in mind that a certain amount of bronchial spasm accompanies and complicates other diseases of the lungs. In chronic bronchitis there is generally more or less spasm of the bronchi consequent on the inflammation of the mucous membrane, and the wheezy, piping sounds which often accompany the moist râles, but differ from them in not being equally persistent, are to be attributed to this cause. Also, in the ushering in of pneumonia, or of acute tuberculosis spasmodic breathing of a temporary kind often occurs. Aneurism of the aorta has frequently been mistaken for spasmodic asthma, on account of the fits of difficult breathing which the pressure on the left vagus and left recurrent nerve gives rise to, but we will enter more fully into this matter when we come to diagnosis.

Let us next consider the *causes* of spasmodic asthma, which may be divided into local and general. By local I mean where the exciting cause directly irritates the mucous membrane of the lung. By general I mean where the cause is more distant and less direct in its action, often taking a somewhat circuitous route to reach the lungs, as when the irritation of the abdominal sympathetic causes a fit of asthma, or where it is induced by the acid state of blood circulating through those organs. The subjoined table enumerates the principal varieties.

I. Local (acting directly on the lungs)		Dust.
		Vegetable irritants.
		Chemical vapours.
		Animal emanations.
		Climatic influences.
		Bronchial inflammation.
II. General (acting indirectly on the lungs)	Through nervous system	Centric.
		Excito-motor.
	Through blood	Gout.
		Syphilis.
		Skin diseases.
	Heredity.	

In the first division, the most simple in their action are the various inhalations. We know that phthisical induration of the lung can be caused by the inhalation of fine, solid particles, as in the consumption of needle-pointers, dry-grinders, stone-masons, colliers, and copper-miners, and the question naturally arises why is it that one form of dust causes the lesser evil, asthma, and another the greater evil, phthisis? The key to this is to be found in the nature of the particles inhaled, and the depth to which they penetrate into the lungs. The dust of threshing-floors and of bakehouses is light, and probably never sinks deeper than the epithelium; while the dust inhaled by grinders, colliers, and others, being heavier, penetrates beyond the epithelium into the lung-substance, irritating and giving rise to inflammatory processes in its neighbourhood. This has been proved in the case of colliers and copper-miners, and the mineral particles detected microscopically in the lungs.

Dust.—Common roadside dust, the fluff from woollen clothing, the dust of threshing-floors and mills and bakehouses, or any mechanical particles, when inspired, will evoke an asthmatic fit in some persons. Among old clothesmen, wool-carders, sellers of furs, and notably among millers and bakers, the disease is very common.

Vegetable irritants.—We know that certain plants have a powerful effect, as, for instance, ipecacuanha and some of the grasses. The well-known hay asthma, which prevails in the hay season, is attributed to the inflorescence of certain of these, especially to their pollen. In England the *Anthroxanthum odoratum* and the *Nardus stricta* are blamed, but in Germany the rye, the *Lolium perenne*, as well as the *Nardus stricta*, are accused. It appears, however, from the recent researches of Mr. Blackley,* that the pollen of a large number of plants, belonging to no less than thirty-five natural orders, is capable of producing this complaint. Mr. Blackley, who is himself subject to this disorder, and thus has opportunity for experiment always at hand, finds that he can produce hay asthma in the following ways:—1st, by applying the pollen to the mucous membrane of the lips, nose, fauces, or tongue; 2ndly, by inhaling it; 3rdly, by wetting the conjunctiva with a solution of it; 4thly, by inoculating moistened pollen into the limbs. He states that when the pollen is moistened it is seen under the microscope to swell up and discharge its granular contents, and he suggests that after the commencement of hay catarrh, the large amount of fluid poured out into the nasal passages tends to increase and perpetuate the disease, by acting rapidly on the pollen which continues to be brought into contact with the irritated mucous membrane. He found, too, that the granular matter could be made by dialysis to pass through membranes thicker than those lining the bronchial tubes and air-cells, and he therefore concludes that it may in some cases pass through the mucous membrane of the air-passages, and, entering the circulation, give rise to the constitutional symptoms sometimes developed. His experiments demonstrated clearly the presence of pollen in the atmosphere, especially in the month of June, and his own symptoms were in direct relation with the amount detected in the air. I think these experiments leave no doubt as to the causation of the disease, and its prevention or cure by removal to the seaside, away from vegetation, confirms this.

Chemical vapours.—The inhalation of certain gases and chemical vapours, such as sulphurous acid, the smoke of pitch or of a recently extinguished candle, the fumes of an ignited lucifer match, may also be excitants. I have seen an attack brought on in an asthmatic person from simply passing through the copper-smelting district near Swansea in a train, and, again, the atmosphere of some leadworks had a similar effect on one of my patients.

Animal emanations.—In some rare instances the attack may, according to Dr. Salter, be induced by the smell of certain animals, as of dogs, cats, hares, and even sheep and horses. Among the remarkable examples he gives is one of a circus proprietor who was always affected with asthma in the presence of horses, until having made his fortune he retired, and found that, with the relinquishment of his business, he had happily taken leave of his troublesome complaint, which, however, always returned if he visited the stables. Another instance was that of an American gentleman who was always affected by the presence of dogs or cats, and could even detect that they had passed through a room by the state of his breathing on entering it. A third case was that of a country clergyman who was rendered asthmatic by the neighbourhood of a hare or hare-skin. This peculiarity converted him into a remarkably keen gamekeeper, for if he met any of his parishioners who had been poaching and had their booty about them, he could always in this way detect it.

Climatic peculiarities are generally credited as the commonest causes of asthma. Cold, whether dry or damp, if intense, is generally an exciting cause, though during the paroxysm a very low temperature is borne without any risk. Facing a strong wind will sometimes evoke an attack, as I remember witnessing in a lady who had been walking scatheless with her back to the wind. On her turning round and facing it her breathing immediately became difficult. Great heat is also complained of, but more in the way of general dyspnœa than spasmodic. Transitions of temperature are nearly always trying, as when an asthmatic descends from an Alpine height into a hot, close valley an attack often occurs the first night of sojourn in the lower region.

Owing to the numerous exceptions which every law of localities suitable for asthma admits of, it is hardly safe to say that there is any law; yet in a very large number of cases dampness, whether of soil or of atmosphere, or whether combined with heat or cold, is the asthmatic's great enemy, and the relief that he experiences on reaching a dry locality is often striking. Another common condition is closeness and want of a proper circulation of air, such as is found in deep valleys abounding in rank and, as a sufferer informed me, oppressive vegetation. These are the hotbeds of asthma, and it would not be difficult to furnish instances of their action.

It is remarkable the great dislike that many asthmatics have to trees around their dwellings. One will not pass through a wood on any account; another perches himself

* Experimental Researches on the Causes and Nature of Catarrhus Æstivus (Hay Fever or Hay Asthma).

up on a high, bare down, so as to live above all trees, and delights in a barren country like a sand desert.

Thundery weather affects some, and many asthmatics can foretell the atmospheric storm by their own tempestuous sensations. Among the causes of asthma, one least dwelt on by writers is malaria, and yet it is well known to travelling asthmatics, and in many instances the circumstances of the attack preclude any other explanation of its occurrence. I remember a striking instance of it in a relative of my own, with whom I was travelling along the Riviera. He was nineteen years old, and had been subject to severe asthma for years. He had wintered at Hyères, free from attacks, except on one occasion, when one was induced by great exertion. We drove along the beautiful Riviera, halting at various places; and he remained free till we reached the marshy district of Albenga, which fringes the Mediterranean for some miles. We hoped to get far beyond it before nightfall, but darkness caught us near Loano, a town on the outskirts. My companion, though he slept on the top floor, was soon visited by his old enemy, and spent the whole night on a chair, wheezing and drinking coffee. We left the place early the next morning, and with it the asthma, for his breathing was natural enough as soon as we were fairly out of the malarious tract. Curious to say, in the following year we revisited the Riviera, and this time special care was taken to start early, and thus avoid sleeping at Loano. However, the fates were against him, for the spring of the carriage broke and he was again compelled to pass the night there, which resulted in another attack of asthma and its cessation on quitting the district. Though it is difficult to trace any decided connexion between asthma and ague, the remarkable periodicity which often marks the former, as well as its occasional dependence on telluric influences, shows there to be some resemblance between the two diseases.

Bronchial inflammation.—But of all the fruitful causes of asthma, the next on our list—viz., bronchial inflammation—is the most common. According to Dr. Salter, it is the origin in 80 per cent. of the cases. It is generally after whooping-cough, measles, or infantile bronchitis that the tendency towards asthma, from which the individual was previously probably free, begins to appear; and from that date he is liable to well-defined spasmodic attacks. It would seem that these diseases, implicating as they do both bronchial muscle and nerve, leave their mark behind them. It may be an irritability of the bronchial membrane; it may be some induration of the root of the lung; it may be an enlargement of the bronchial glands giving rise to pressure on the pneumogastric or on some of its branches. But of this fact there is no doubt—that the diseases which implicate the bronchial tubes in childhood lay the foundations of asthma in after-life.

Dr. C. J. B. Williams* has drawn attention to the fact that enlarged bronchial glands often accompany enlarged tonsils in children; and he has often noted, even in early cases of asthma, where the attacks are few and far between, that, in the absence of paroxysms, more or less tubular sound, generally accompanying expiration, is audible in one or both interscapular regions.

The division of *general* causes, acting indirectly on the lungs, is a large one; and includes many of a heterogeneous nature, which are only classed together for convenience. Two principal subdivisions appear:—1st, where the cause depends on some part of the nervous system; 2ndly, where it may be assigned to an irritating condition of blood circulating in the lungs.

The nervous causation may be *centric*—as, for instance, where asthma arises from a fit of passion, as sometimes occurs in children. Great fright and emotion, jealousy and disappointment, have all been stated to have induced attacks in asthmatic patients. Théry gives an instance of a French officer in whom an attack was brought on by the grief he experienced in seeing Paris occupied by foreign troops; and when we remember the great susceptibility of Frenchmen on the subject of "la patrie" we need not be surprised at this fact, but can class it with the other French disturbances of the nervous system following the siege of Paris. The centric form of causation will include those cases where, as Dr. Anstie has well shown, there is an alternation between asthma, angina, gastralgia, and even hemicrania, in the same individual. Here there appears to be some centric irritation in the medulla involving the origins of the fifth and eighth pairs of nerves, and affecting one branch after another of those nerves.

The other and more common mode of indirect causation is the *excito-motor*; such as, for example, when the attacks follow from costive bowels, or catamenial periods, or indigestion of various kinds. More than one case is on record where an attack has been caused by constipation of some days' standing, and has been warded off by attending to the bowels regularly. A good instance of the connexion of the catamenial periods with asthma has been already furnished by Dr. Pollock's patient.

Indigestion is a very frequent cause of the attacks. Some asthmatics become more or less wheezy after the ingestion of any food; others, again, only after certain kinds, such as cheese, salads, pastry, new bread, and others of the unwholesome class. With many, however, it is not the *food*, but the *hour of taking it*, that is of consequence. They can eat a mutton-chop at breakfast, whereas at dinner or supper such strong meat would certainly be provocative of an attack. Attacks, as a rule, are more apt to come on after the later meals than after the earlier; and this the asthmatic soon finds out, and has to renounce late dinners and their accompanying sociability, and to devote himself to an extremely regular and even ascetic life. Some asthmatics only make one good meal a day, and that is at breakfast; and during the paroxysms patients have been known to go forty-eight hours without any food. Another point of connexion between indigestion and asthma is the flatulence which either ushers in or follows the fit; and in one interesting recorded case, when the patient became free from fits she suffered from troublesome flatulent attacks of a periodic kind and apparently replacing the asthma. The usual explanation of asthma following on indigestion is, that irritation of the medulla takes place through the gastric branches of the pneumogastric, giving rise to a motor effect through the pulmonary branches; and this is probably correct where the simple ingestion of certain articles induces the fit. But when there is a large amount of flatulence, might not the distension of the stomach and intestines, involving mechanical pressure upwards and constriction of the thoracic cavity, alone account for the occurrence of the bronchial spasm? The fact of the peptic attacks, as they are called, occurring more frequently at night, after suppers, than at any other time, is, I am aware, decidedly in favour of their being the result of a reflex act; for we know that reflex irritability is always exalted by sleep, as is seen in the epilepsy and teething convulsions of childhood, which occur far more frequently at night than in the day.

The general causes acting through the blood are—(1) Gout, which towards old age often takes the form of asthmatic attacks, which can be considerably relieved by treating the gout and not the asthma. (2) Syphilis. This is not often an exciting cause of the asthmatic spasm, and M. Sée has never known an instance. I happen lately to have seen a well-marked one, where the asthmatic symptoms were not severe, but showed a remarkable degree of stubbornness to the action of the ordinary remedies. At length psoriasis palmaris appeared, followed by scaly spots of a copper colour on the legs and scrotum, and the characteristic sore-throat. I treated the patient with iodide of potassium and calomel baths, and was pleased to find that both eruption and asthma took their departure together, indicating clearly that the principal cause was the syphilitic taint, possibly involving the bronchial glands. (3) Skin disease. The connexion of skin disease and asthma was first noticed by Bouillaud, and subsequently confirmed by others. Trousseau gives a case where the attacks coincided with the appearance of urticaria, and increased in violence when the eruption disappeared. Gueneau de Mussy furnishes an instance where the subsidence of chronic eczema of the head and ears was followed by fits of spasmodic breathing. Several cases have fallen under my notice where the appearance of eczema or psoriasis has been the signal for a cessation of the asthmatic attacks, and, *vice versâ*, their disappearance has been followed by a renewal of the asthma. These instances, however, point rather to both diseases being due to some common cause, which is probably the state of the blood, than to the skin disease being the origin of the asthma.

We have now reached the last though by no means the

* Med. Times and Gaz., June, 1872.

least important in our list of causes—namely, Heredity. Fathers and mothers very frequently transmit to their children the asthmatic tendency. Out of Dr. Salter's 217 cases, 84 (or 39 per cent.) were clearly hereditary. When we consider that asthma is not, like phthisis, so common and so easily acquired a disease that it is difficult to say if the children would not have been consumptive whether their parents were so or not, if the parents had not been phthisical; but we find that, even in a small number of cases of asthma, the hereditary element comes out very strongly. We see the asthmatic chest transmitted from father to son, from mother to daughter; and we notice in catarrhal attacks how the spasmodic symptoms predominate over the inflammatory. In many instances the transmitted delicacy does not show itself till late in life. It is not uncommon, as Dr. C. J. B. Williams has well remarked, to find that the children of asthmatics are not asthmatic, but phthisical. This, when we take into account the miserable state to which the frame of an habitual asthmatic sufferer is reduced by the number of attacks, the insufficiently oxygenated blood, and the starvation necessitated, is not by any means wonderful.

Before closing the subject, some notice must be taken of the influence of sex and age. Asthma is far more common among males than females. This may be explained by the fact that bronchial inflammation, the most potent cause of asthma, is also more common among the former, who are far more exposed to cold, vicissitudes of weather, damp, and the like, and have bronchitis more frequently. Salter maintains that this is the only reason of asthma predominating among men; and that asthma of nervous origin is, like hysteria, chorea, and other diseases of exalted nervous sensibility, more common among women.

As regards age, no period of life is free from attacks of asthma. It is quite as much a disease of childhood as of old age. We find it coming on in a large number of cases in middle life, and in a much smaller one, above fifty. The bronchial attacks of childhood cause the percentage to be the highest during the period of their greatest prevalence.

ON

PARTIAL STAPHYLOMA OF THE CORNEA AND IRIS.

BY WILLIAM A. M'KEOWN, M.D.,

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FEW diseases of the eye are more rebellious to treatment and embarrassing to the surgeon than a considerable partial staphyloma of the cornea and iris with a tendency to further distension. Too often the surgeon has to deplore the fleeting character of the relief afforded by the operations practised, and is a witness of the gradual loss of vision by secondary glaucoma. The following cases I deem of such practical interest as to warrant me in putting their history before my professional brethren.

CASE 1.—Minnie T——, aged eight years, was brought to me on the 10th May, 1871, suffering from a staphyloma of the cornea and iris, implicating the lower and outer third of the cornea and the corresponding segment of the iris. The dimensions of the cornea in all directions were increased, and the parts adjacent to the staphyloma sloped into the projection in such a manner as to make me fear a rapid advance of the disease. The staphyloma projected so much as to interfere with the free closure of the eyelids. The process of cicatrisation was complete. There were photophobia, profuse lachrymation, great tension of the eye, pericorneal injection, pain in the brow, and intense ciliary neuralgia. The child passed restless days and sleepless nights. I learned from the mother that the child had suffered some months from an ulcer of the cornea, which had been treated by caustics, and that five or six weeks before her visit to me a little dark projection (prolapse of the iris) appeared in the site of the ulcer; that the doctor in attendance had touched it with caustic, with the result of causing the little tumour to shrivel up, but that two days afterwards it was larger than before, and had since continued gradually to increase. I advised an operation, to which the parents consented. I made a large iridectomy quite up to the ciliary attachment of the iris at the part of the cornea directly opposite to that involved in the staphyloma, and kept a compress bandage applied for the next fortnight. The pain was entirely relieved; the projection almost entirely subsided. In a short time, however, it began again to increase, but it never assumed its primary dimensions. I tapped the staphyloma repeatedly, always applying the compress after the tapping; but this plan of treatment I was ultimately obliged to abandon, because, though at first tolerated, it seemed at last to increase the irritability of the eye. The future management of the case was evidently surrounded with great difficulty. I found the lens transparent and in its proper position, and without any jogging movement, so that the renewal of the distension could not be reasonably attributed to it, and therefore extraction of the lens by a section through the cicatrix was not indicated. Observing that the tension of the eye and the bulging of the staphyloma varied from day to day, I inferred that the traction by the staphyloma upon the iris attached to each side of it, and through the iris upon its ciliary attachment, varied in a similar manner. Thus with every temporary distension (and I may remark that such temporary distension takes place with every considerable movement of a staphylomatous eye) the nerves of the healthy iris are irritated, and increased secretion results. I concluded that a vicious circle was established, from which the only escape was by breaking the chain, and I resolved to effect this by performing an iridectomy on each side of the staphyloma, so that no dragging of the healthy iris should thereafter be possible. This I did in the month of October, 1871, allowing an interval of a fortnight between the two operations. The patient had not a bad symptom after either operation. The whole iris, save such part of it as may be involved in the cicatrix, was removed. I directed absolute rest of the eyes as regards reading, sewing, or looking at minute objects, for a period of nine months. Now, after a lapse of eighteen months from the last operation, the eye remains without change; the cicatrix is only slightly prominent; she can see No. 8½ of Snellen's types at six inches, and with the aid of a concave cylindrical glass of sixteen inches' negative focal length she can see No. 3½ at about the same distance.

CASE 2.—Lizzie R——, aged ten years, was brought to me in December, 1871. The mother stated that the patient had an inflammation of the right eye two years previously, from which the present disease resulted. I found that she had a staphyloma of the cornea and iris, at the inner part of the pupillary margin. The projection was well defined, rather globular in surface, and about a line and a half in diameter at the base. The pupil, small in size, appeared at the outer side of the staphyloma. The lower and outer segment of the iris seemed to be tensely stretched from its ciliary attachment to the margin of the staphyloma. The eye was considerably distended, and seemed larger than its fellow; the sclerotic over the ciliary region had a bluish tinge; the ciliary vessels were gorged with blood, as in cases of glaucoma; the nasal portion of the visual field was contracted, and the patient complained of a sense of fulness in the eye, with pain in the brow, and extending down the nose. She could count fingers. I advised an operation. Although a decided secondary glaucoma had been established, I thought, reasoning from my observation of the previous case, that even a small iridectomy embracing the portion of the iris which was so much stretched, would diminish the secretory activity. I accordingly made, with a broad needle, a small puncture at the lower and outer part of the cornea, and by means of Liebreich's revolving forceps seized the iris close to its attachment to the staphyloma, tore through its connexion, and excised it. The portion excised was of a triangular shape, having its base towards the staphyloma, and its apex downwards and outwards. The staphyloma subsided, and the cicatrix has remained flat ever since. The tension of the eye became normal, pain ceased entirely, and vision was restored, the patient being able to read easily, without a glass, No. 2 of Snellen's types at six inches.

CASE 3.—John S——, aged twenty-one, consulted me in April, 1872. He stated that he took small-pox five months previously, and that during his illness and ever since his right eye had been affected. He suffered excruciating pain. I found that he had had a large perforating ulcer of the

centre of the cornea, and that the iris was attached to it by the whole of its pupillary margin. Partial cicatrisation had taken place. The centre of the cornea was staphylomatous and of a conical shape. I did not consider any operation indicated at the time, and rested satisfied with using atropine, and applying a compress bandage. The pain ceased, and the cicatrix became less projecting. Three months afterwards the ulcerated part was represented by a dense white spot in the centre of the cornea about one and a half or two lines in diameter, and still projecting considerably, the peripheral part of the cornea being clear. The pupillary margin above became visible, having separated from the cornea, and to the outer and inner side and below it was attached to the cicatrix. Perception of light good. I advised an iridectomy with the view of extending his field of vision so as to diminish risk of accident, and at the same time to relieve intraocular tension. This I did on August 8th, at the lower and inner part, and three weeks afterwards in the lower and outward direction. No portion of the iris is now attached to the cornea. I afterwards tatooed the cornea on several occasions with Indian ink. The cornea is now little more prominent than natural, the tension is normal, and the patient is able to read No. 12 of Snellen's types.

Observations.—Until recently classical authorities on ocular affections seem to have regarded staphyloma in its various stages as resulting from a weakening of the cicatricial tissue, and a passive obedience to the normal intraocular forces. Hence the indications of treatment were considered to be to strengthen the weakened part. This end was sought to be secured by the application of caustics, as butter of antimony, nitrate of silver, and similar agents, to a part of the staphyloma with the view of producing cicatricial contraction after the separation of the eschar. This treatment may have often succeeded in curing the staphyloma, but entailed in most instances the loss of the remnant of vision.

So soon, however, as the important part played by increased tension in various ocular affections came to be understood, new views as to the nature of staphyloma were advanced and a new plan of treatment advocated and adopted. To the writings and teachings of the illustrious Graefe this change is to be mainly attributed. He showed that vision was lost in partial staphyloma generally from the grafting of a secondary glaucoma on the original malady; and he even seems inclined to the view that increased secretory activity, and consequently increased intraocular pressure, precedes the appearance of staphyloma. The plan of treatment changed with the change of opinion. All caustics and irritants were abandoned as injurious, and iridectomy to relieve tension became the established rule of practice.

Both views are no doubt well founded, but neither is sufficiently comprehensive. Undue prominence came to be given to the symptoms of increased tension: every phase of the disease was sought to be explained by it; whilst the primary structural changes in the affected part, and muscular action, were deemed as of trivial importance.

The causes in operation being of a complex character, and mutually dependent on one another, an inquiry into their nature is called for with a view to ascertain their relative importance, and to enable us to judge in what way they are likely to be removed, or their injurious influence diminished.

Although many cases of perforation of the cornea with prolapse of the iris terminate without staphyloma, yet when staphyloma occurs it is evident that the proximate cause must be sought in the altered condition and relations of the cornea and iris, whilst the forces exerted upon the altered organ from without, and even the exercise of its visual functions, become factors in the aggravation of the disease, and are secondary causes.

The diminished power of resistance of the cicatricial tissue replacing the loss of substance is no doubt the starting-point. Even in a condition of rest this part is more likely than any other of the ocular capsule to yield even to normal tension, and for this reason alone to become staphylomatous; but when the extrinsic muscles of the globe, with an insertion on the sclerotic so favourable for the exertion of force, are called into action this tendency to distension is increased in direct proportion to the weakness of the cicatricial tissue and to the force applied. As Galezowski points out, the direction of the axis of pressure which in normal eyes coincides with the optic axis is displaced so that its anterior pole coincides not with the centre of the cornea, but with the staphyloma. The greater the distension, too, at any given time, the greater the power of the muscles for evil. I consider the normal muscular action which takes place in the various movements of the eye to be probably the most active mischievous agent. That this is so is capable of clear proof, and yet in many works of great repute the fact is either entirely overlooked or receives only trivial notice.

Irritation in the cicatricial tissue and adjoining parts has been advanced as a probable cause. Graefe attributes to this the secondary glaucoma occurring in eyes after extensive ulceration of the cornea without any adhesion of the iris. The cause is to be found elsewhere. In such cases progressive distension (generally very slow in its progress) takes place from the lessened resisting power of the tissue; the capacity of the anterior part, and subsequently of the whole eye, is increased, so that it becomes virtually of a marked myopic type. The muscles attached to the distended globe exert upon it greater pressure in accomplishing the various movements. The weakest parts suffer most—viz., the cicatrised cornea in front and the optic nerve entrance behind,—and so distension of the weak cornea and cupping of the optic disc result; so, in myopic eyes, progressive elongation of the antero-posterior axis and atrophic changes in the choroid have as one of their recognised causes the excessive pressure on the globe by the internal recti muscles in convergence for near objects.

The irritation of the corneal tissues may, however, be an element in cases of another kind. Where a portion of the iris is adherent to the cicatrix, and a portion of the pupillary margin free to react on the stimulus of light, it is evident that with every contraction of the iris traction is exerted upon the cicatricial tissue. The iris often contracts energetically, and it is certainly reasonable to attribute to this an injurious influence.

The irritative action exerted by dragging of the staphylomatous tissue upon the healthy iris, and indirectly upon its ciliary attachment, is, however, of far more consequence, and is, perhaps, the factor next in importance to muscular action. This is a permanent source of irritation, and is liable to increase and diminish with the increase and diminution in the volume of the staphyloma. That the volume varies from day to day, particularly in recent cases, as in the case of Minnie T——, may be readily ascertained by a careful observer. The causes of this variation are mainly external irritation and the use of the eye. The muscles grasping the globe determine the internal pressure on the staphyloma in every movement. The power for evil of various movements of the eye is shown beyond doubt in cases in which the process of cicatrisation has not been completed. I have now under my care a girl sixteen years of age, who was brought to me a month ago with a perforation in the cornea at the lower and inner part, with prolapse of the iris and bulging of the weak cornea surrounding the prolapsus. I snipped off the prolapsed iris, as it could not be returned, and I have kept a compress bandage applied continuously. The process of cicatrisation is far advanced, the curve of the cornea about normal, and the tissue endowed with so considerable a power of resistance that it will remain, when at rest, without change of curve for a long time after removal of the compress; yet on directing the patient to move the eye in different directions, the partially cicatrised part is immediately distended, and the condition of the eye is aggravated just in proportion to the extent and continuance of the movements. Here a vicious circle is established—(*a*) Internal pressure on the staphyloma with use of the eye; (*b*) dragging upon the already stretched healthy iris and its ciliary attachment; (*c*) increased secretory activity from last cause producing increased tension, further distension of the staphyloma, and a tendency to involve the adjacent healthy cornea and iris.

The views I have expressed may be briefly summarised as follows:—

1. Muscular action produces bulging of a previously flat cicatrix. In the case of the girl referred to, the possibility of previous increased secretion was altogether excluded.

2. Muscular action, and not increased secretion, in such a case is the cause of the primary dragging upon the iris. The dragging of the iris and its ciliary attachment is the

link in the chain whereby muscular action leads to increased secretory activity and increased tension.

3. Muscular action is the cause, where a staphyloma has been developed, of variations in its volume, and likewise of the alternation of traction and relaxation to which the iris is subject. Reasoning from what we know of the different effects of interrupted and continuous irritation, it is to be inferred that a varying traction is much more likely to cause increased secretion than a constant unvarying traction.

4. Muscular action explains the loss of vision which occurs in distended eyes with prominent cicatrix but without any adhesion of the iris.

It remains now to consider the treatment from the stage of perforation to the full development of the staphyloma. In case of perforation of the cornea with prolapse of the iris, were it possible to paralyse all the ocular muscles until the cicatrisation should be completed, doubtless staphyloma would be much more rare. Compulsory rest, secured by a compress bandage, is the nearest approach to this, and affords at the same time support to the weak cornea, and favours the formation of a firm cicatrix. It is not enough, however, to rest satisfied with the application of a bandage. The patient must be directed to move the uncovered eye as little as possible, because the muscles of the two eyes act in harmony, and even although those of the bandaged eye may not be able to cause movement, yet they will exert pressure, and a pressure great in proportion to the resistance offered by the bandage to motion. The pressure of the bandage when properly applied, however, supports the weak part so that it will not bulge from the muscular action. If, however, the bandage should happen to be relaxed, then the eye may move and the bulging may take place. The importance of rest of the uncovered eye will be better understood when it is borne in mind how difficult it is to secure the firm application of a bandage for many hours at a time, and how often during the day and night it may require readjustment.

With hospital patients it is necessary that the instructions be very precise and peremptory, and the evil results of any departure must be forcibly represented. The necessity for this caution is shown by the following case. A lad, ten years of age, was under my care for ulcers at the lower part of the cornea of both eyes. The case progressed unfavourably without any ascertained cause, and terminated in perforation, prolapse, and staphyloma. I casually learned that the compress bandage which I applied daily was removed frequently during the day to allow the friends and acquaintances an opportunity of examining the eyes. Thus ignorance interfered to render the treatment useless. Fortunately, however, by excision of a small portion of the staphylomatous tissue and application of compress the boy recovered with little damage to vision and total subsidence of the staphyloma. The period during which the compress should be applied must be regulated by the circumstances of each case. The larger the perforation the longer will compression be necessary. The time should vary from one to two or three months. This will not appear unnecessarily long when the period during which consolidation and retraction of cicatricial tissue proceed is borne in mind. It is desirable by direct means to diminish the irritability of the projecting part and lessen its size, so that the compress may exert its influence under more favourable circumstances. The section of the base of the staphyloma at its sclerotic margin has more permanent effect than a simple tapping, and has the great advantage of severing the nerves of the iris and cornea involved in the staphyloma, and is therefore always to be preferred. Excision of a small portion of the tissue also favours firm cicatrisation, and is useful by removing a redundancy of tissue, the surface of the prolapsed iris being always greater than the part of the cornea destroyed.

Suppose, however, that, notwithstanding all our efforts, the cicatrix which results has not sufficient resisting power to withstand the internal pressure during muscular action; that the cicatrix becomes prominent; and that, through its dragging upon the iris, increased secretory activity is set up, and a condition of secondary glaucoma impending or established,—then iridectomy must be performed. The mode of its performance is a matter of the first importance. One writer recommends that the iridectomy be made at the part directly opposite to the staphyloma, with a view of diverting part of the pressure from the staphyloma towards the centre of the cornea and a part to the cornea in front of the excised iris. I confess I fail to see in what way such a decomposition of the intraocular pressure can be expected, the muscular force and the relative resisting power of the different parts of the cornea remaining unchanged after the operation. No doubt it is beneficial, but for a very different reason. The part of the iris furthest from the staphyloma is often more stretched than any other, and therefore from its excision relief may be expected. Besides, tension is relieved. Most writers direct an iridectomy without defining where. I propose a definite plan to be followed in all cases—namely, the excision of the portion of the iris adjacent to the staphyloma, as in the second and third operations in the first case reported. In bad cases an iridectomy should be performed on each side of the staphyloma, allowing an interval of a week to elapse between the two operations. When the staphyloma is small and the traction exerted upon only a portion of the iris, excision of the stretched portion will suffice, as in Case 2. For this plan I claim the advantage of securing the healthy iris, which may be allowed to remain in the eye, from the possibility of any traction during temporary distension of the staphyloma, whether from muscular action or any other cause, and at the same time of diminishing the tension as effectually as if performed at any other part.

I am well aware that the performance of the operation in this way is attended with some difficulty, because of the close approximation of the cornea and iris adjacent to the staphyloma. Unless union between these structures should have actually occurred, by means of Graefe's narrow cataract knife and scissors the necessary section can be made. It is urgent to perform the operation as early as possible. Although this leaves muscular action untouched, yet it breaks the chain of its morbid influence.

If the disease should still progress, I would make a section of either the internal or external rectus, or both. I have not yet had occasion to resort to this, but will try it in the first case requiring such a measure.

Use of the eyes in reading, sewing, and regarding minute objects should be forbidden for a period varying from three months to one year.

In case any confusion should be experienced from difference in the size and shape of the retinal images of the two eyes, the patient should be relieved either by a suitable glass if the difference be slight in degree, or by an opaque glass opposite the damaged eye, to exclude it altogether from vision for a time.

Belfast.

ENTERIC FEVER LATENS.

BY WILLIAM ROBERT WALL, F.R.C.S.I.,
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ENTERIC FEVER of a masked or latent type is becoming a recognised fact, and has been described by Bristowe, Murchison, and other writers,—all the usual symptoms (such as rose-coloured eruption, pain and gurgling in the right iliac fossa, meteorism, diarrhœa, and intestinal hæmorrhage) being absent until fatal perforation of the intestine takes place. This was remarkably illustrated by a case which occurred at Neemuch, Rajpootana.

A healthy young woman, aged twenty-four, the wife of a sergeant, was suddenly seized with intense pain in the abdomen. She stated that she had just returned from an entertainment, and that she had felt quite well for the last three weeks, and able to look after her family. The bowels were more or less constipated during that period. Symptoms of peritonitis immediately supervened, with profound collapse; and she died sixteen hours after being attacked.

Post-mortem appearances.—Peritoneum intensely inflamed. The anatomical sign of typhoid fever was well marked, the lower third of the ileum containing several ulcers, elliptical and circular in shape, one of which had completely perforated the intestine, allowing the contents of the gut to escape into the peritoneal cavity. The mucous membrane was in a state of catarrhal inflammation.

Previous to this woman's death there were two well-marked cases of enteric fever in the same regiment. I have

treated several cases of this insidious malady as "continued and remittent fever" until a few days before the fatal termination, when diarrhœa and collapse set in rapidly, causing death, the post-mortem showing perforating ulcer in the lower part of the ileum. Several cases of this disease have occurred at this station (Mhow) lately.

J. J——, admitted April 7th, suffering from what appeared to be remittent fever. Pulse weak and frequent, slight diarrhœa, no gurgling, or "rose-coloured" spots. Twelve days after admission he suddenly got much worse; pulse scarcely perceptible, sordes on teeth, no diarrhœa or eruption. Died twelve days after admission.

Sectio cadaveris.—The whole of the ileum was in a very congested state, Peyer's patches very much thickened, and towards the ileo-cæcal valve, ulcerated.

A case of well-marked typhoid fever was admitted on the 18th April. Rose-coloured spots, severe diarrhœa, abdomen tympanitic, tongue very dry and brown. Died thirty days after admission. The post-mortem discovered almost the same lesions as in the former case.

I. T——, admitted on June 1st for remittent fever. Bowels regular; skin hot; generally one or two degrees F. increase in evening temperature; no eruption; pulse quick and small. Low muttering delirium set in, and he died twenty-eight days after admission.

Post-mortem.—The lower part of ileum covered with large patches of ulceration, and in one or two places nearly ulcerated.

In this case there was no eruption or diarrhœa. Temperature three days before fatal termination:—June 25th: morning, 96° F.; evening, 98°. 26th: morning, 97°; evening, 98°. 27th: morning, 98°; evening, 99·2°.

Until comparatively of late years the existence of typhoid fever has been denied in India, and I have no doubt that cases of that type have been returned as "continued" and remittent fever. A question of vital importance now arises: What are the causes of this disease, especially in India? As far as I can see (in addition to the defective removal of excreta, &c.) the wells in this country are quite *uncovered*, and only surrounded by a low wall, on which it is no uncommon sight to see the "water-carriers" washing their clothes and performing ablutions. During dust-storms, and the strong winds that prevail (generally S.W. in Bombay presidency), a variety of foreign substances, such as organic matter, "cholera and enteric dust," and low organisms, must necessarily find their way into the drinking-water used by the soldiers, where they have all the essential conditions for decomposition — i. e., moisture, access of atmospheric air, and the rays of a tropical sun. A simple and inexpensive remedy for this defect might be found by placing a raised roof of thatch over each well, and also an enclosure of the same to the windward side (the entrance being to leeward). This would allow the free access of air, and also protect the water from impurities in the atmosphere.

This form of enteric fever being so obscure, and liable to be mistaken for remittent fever, makes it difficult to diagnose. I think the most certain sign is the evening increase of temperature as shown by the clinical thermometer, often very slight (not more than one or two degrees above 98° Fahr.) In places where enteric fever is endemic the morning and evening temperature in all cases of fever should be carefully recorded, and even a slight increase in the evening temperature looked on as suspicious. As regards the treatment, I think the advice given by Graves ("anticipate symptoms") in the treatment of fevers generally peculiarly suited to this form of disease; and although there may be no rose-coloured spots, pain, tenderness, or gurgling in the right iliac fossa, commence at once by topical depletion, application of ice-bladders, &c., in this region; keep the patient strictly in the recumbent position; and be most particular as regards diet, no solids being allowed as long as the temperature of the patient is above the normal standard.

Mhow.

CATARRH OF THE FALLOPIAN TUBES. — In the *American Journal of Obstetrics* Dr. Hennig expresses the opinion that catarrh of the Fallopian tubes is more frequent than that of any other part of the female sexual organs. Out of 103 females he found catarrh of the tubes present in 44. It occurs oftener before than after the critical period in married women.

CLINICAL OBSERVATIONS ON CONDITIONS OF THE FEMALE BLADDER;

SHOWING THE ADVANTAGES TO BE GAINED BY THE USE OF A SELF-RETAINING FEMALE CATHETER.

BY THOMAS STRETCH DOWSE, M.D., F.R.C.P.,
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UNTIL about three years ago, when Mr. Barnard Holt first brought before the notice of the profession an elastic winged self-retaining male catheter, nothing had been done to secure that which was so greatly needed—the *self-retention* of the catheter in the bladder. It seems strange that so long a period of scientific progress in the art of medicine and surgery should have elapsed before something of this kind (simple though it be) was brought into use.

Shortly after I became attached to this institution, where I have one ward of thirty-two beds occupied almost exclusively by palsied female patients, the necessity of some means to collect the urine which involuntarily made its escape from the paralysed bladder at once became evident. And, after having tried with little success a variety of urinals, sponges, and bags, the thought occurred to me that a modification of the male self-retaining catheter adapted to the female bladder would be of incalculable advantage to both physician and patient. The bladder being the receptacle for one of the most varying fluids secreted in the animal economy—a fluid, too, which is more prone to rapid decomposition than any other, especially when brought into contact with animal tissues in a state of metamorphosis,—the urine is not only by this means changed itself, but by a process of catalysis reacts upon the healthy portion of the bladder tissue, producing a chronic condition of disease which almost inevitably leads to serious, if not to fatal, results.

In acute cystitis the great pain arises not so much from the inflamed condition of the walls of the bladder as it does from the reflex muscular movements produced by the irritable condition and inco-ordinate power of the muscular sphincter. In the height of the inflammatory stage of acute cystitis it would scarcely be found advantageous to use a self-retaining catheter, but as the disease becomes more chronic, and the walls of the bladder lose to a great extent, as they invariably do, their muscular power, the retention of a catheter will not only permit the complete escape of urine, but will at the same time keep the walls of the bladder passive; and to ensure that not only may ulcerated surfaces become healed, but the muscular tissue of the bladder itself will by being kept at perfect rest the more readily regain its normal function, and be less likely to lead to degenerative change.

In cystitis there are two conditions requiring special attention—first, the constant desire on the part of the irritable bladder to eject its contents, and, secondly, the inability of the sphincter to perfect its retention. Hence arises the incontinence of urine so general in these cases. Chronic cystitis supervenes in nine cases out of ten from a previous inflammatory attack, and from the pathological cause that all acute inflammations terminate either by resolution or decay, let that be molecular as in suppuration, or general as in sloughing. And it is at that period of the inflammatory attack, when the epithelial cells and mucous tissue are in a state wavering upon decay or repletion, that it is so necessary to prevent the slightest accumulation of urine in the bladder, which, if allowed, would inevitably lead to the most serious results. The following case is to the point.

M. S——, forty-three years of age, was admitted under my care about a year ago with hæmorrhage from the bladder accompanied with all the symptoms of acute inflammation, which continued for more than three weeks. As the general sympathetic pains in the loins, rectum, and hypogastric region abated, the urine became altered in character, was ropy, lost its hæmatoid condition, and soon became loaded with pus. There was some incontinence and incessant desire to micturate, accompanied always with great pain. Not agreeing with the means usually adopted in such cases,

to subject the bladder to repeated washings, I determined upon keeping it as free from urine as possible, and in order to effect this, not having an india-rubber self-retaining catheter, I kept an ordinary male elastic catheter continuously in the bladder for more than a week with the most beneficial results. Although the means adopted gave some pain and uneasiness at first, still it was trifling when compared to the agonising spasmodic action of the irritable and ulcerated sphincter. Strong suppositories of belladonna and morphia were passed into the rectum; but this is not pertinent to the object of the paper.

Leaving diseases commencing in the bladder itself, there are conditions whereby it becomes more or less implicated, producing paralysis of its walls with retention on the one hand, or palsy of the sphincter with incontinence on the other. It is then that continuous catheterism will be found not only of great service and comfort to the patient, but it will relieve the medical attendant of much anxiety.

Practice teaches us how essential it is in some forms of blood-poisoning, where our patients are partially conscious and lie in a semi-comatose state, to pay attention to the state of the bladder. Such conditions as we find in typhus and typhoid fevers, and even in the poison of uræmia where the suppression is only partial, and where the centripetal sense is either cut off from the nerve-centres, or where the centres themselves are not in a condition to receive the peripheral impression. This is perhaps more especially exemplified in certain forms of paraplegia, when the bladder will become enormously distended, almost to rupture, without the patient experiencing the least uneasiness. And without doubt the advantages to be gained by the constant use of a self-retaining catheter will be found practically to supersede the disadvantage which is said to attend this mode of catheterism, in consequence of the irritation, inflammation, and ulceration which it is supposed sometimes to set up in the mucous membrane. The two following cases will demonstrate my meaning clearly:—

J. M—— was admitted into the hospital with rheumatism of the lower extremities, which turned out to be a paraplegic condition. There was no voluntary power whatever over the vesical sphincter, but, as is not unfrequently the case, when the bladder became fully distended the urine dribbled away, giving the nurse the idea that there was no occasion for catheterism. I was summoned hastily to see this patient, whom I found to be breathing stertorously, and, in fact, quite comatose from uræmic poisoning. Nearly four pints of urine were at once drawn off, and in less than half an hour the patient was perfectly conscious, and ultimately recovered. Had a self-retaining catheter been used from the first in this case, a grave complication would have been avoided.

M. C—— was admitted with cerebro-spinal meningitis and complete paralysis from the buttocks downwards. There was palsy of the sphincter vesicæ, with constant, copious dribbling of urine, of which the patient was totally unconscious; and although it was drawn off at least twice a day, and its accumulation was therefore comparatively slight, yet from the paralysed state of the walls of the bladder, the use of the catheter was absolutely necessary to prevent even such a collecting of urine as fell by gravitation to the bottom of the bladder, where it acted upon and destroyed the mucous surface, producing a fluid of a highly fetid and even poisonous nature. I find from my notes that this patient's urine, though secreted plentifully, was highly offensive from ammonic sulphide and free ammonia, besides pus-cells and bladder-epithelium. Independently of this, the patient had a bedsore of considerable size on the sacrum. Now two points in this case suggested themselves to my notice. The first was, if possible, to keep the bladder thoroughly empty, and so to prevent the decomposition of urine, which I believed to be normal in character when secreted; and, secondly, to prevent its dribbling away and accumulating underneath the patient. A self-retaining female catheter was introduced into the bladder, and in less than forty-eight hours, as I had anticipated, the urine was completely altered in character. Not only was it devoid of the offensive odour, but it was quite clear, and almost free from bladder-epithelium and pus.

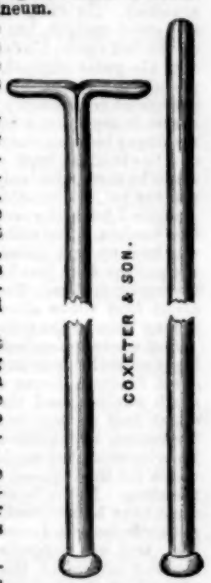
There is a class of cases where catheterism is always necessary, and where a self-retaining catheter will be found of incalculable advantage. I refer now to cases after surgical operations where it is necessary to keep the patient at perfect rest, and more particularly in those where an operation has been performed upon the vagino-vesical or recto-vaginal walls, and for ruptured perineum.

In conclusion, I cannot speak too highly of the immense advantages which, in a sanitary and wholesome sense, are gained by this simple but very effectual mode of catheterism.

In No. 11 ward of this infirmary I have congregated together over thirty patients suffering from various forms of paralysis, and the majority from incontinence of urine. Before this catheter came into use the atmosphere was, especially at the times of changing the linen, night and morning, not so pure as one could desire, but now no difference is appreciable between it and the air of the other wards.

And, finally, a very essential point must not be forgotten—the bedding is kept continually dry, thereby in a great measure preventing the formation of bedsores, which is so severe a complication in the treatment of paralytic patients.

This instrument is made for me by Messrs. Coxeter & Son, of Grafton-street, to whom I am indebted for many practical hints before it was perfected.



It is easily introduced and withdrawn from the bladder, and it is advisable in some cases to remove, wash, and replace it every twelve hours. A piece of india-rubber tubing is attached to its extremity to carry off the urine.

DEATH FROM THE STING OF A WASP.

By WILLIAM ODELL, M.R.C.S.,
HOUSE-SURGEON, GENERAL INFIRMARY, HEREFORD.

THOMAS M——, aged seventy-four, a labourer, was brought to the infirmary about 10.45 on the night of August 19th, having been stung on his tongue by a wasp. It appeared that the patient was clearing up his plate after eating his supper, when he cried out that he had been stung, and something as fine as a hair was removed by his companion. The patient went to bed, but did not sleep, and in about an hour called his companion and complained of swelling of his tongue and difficulty of breathing. He was then brought to the infirmary.

On admission, nearly three hours after the occurrence, his tongue was very much swollen and quite tense; there was considerable swelling immediately below the chin, between that and the hyoid bone; respiration quick, but not particularly laboured; pain referred to a point in the middle line of the tongue, about three-quarters of an inch from the apex. The patient could protrude his tongue, and answered questions quite distinctly. He said his companion had attempted to remove the sting, but did not think he had accomplished it. The tongue was examined with a lens, but no sting or mark of sting was perceptible. The pharynx was examined by the finger, and was apparently not obstructed by the swelling.

The patient was put to bed, and fomentations as hot as he could bear were applied to his throat. The part where he complained of pain, and where he said he had been stung, was brushed with liquor ammoniæ diluted so as to be borne by myself without much inconvenience when applied to my own tongue. Pulse 64; respiration 34, not particularly laboured and not strikingly laryngeal in character.

The patient seemed better for the fomentations and application of ammonia to his tongue, and expressed the comfort he felt, when suddenly, about half a minute after an application of ammonia, he was seized with spasm of the glottis, his face became pale, with drops of perspiration on

the forehead, and his arms were thrown out as if to grasp for air (really to assist respiration by means of the pectoral muscles). He said, "I shall choke!" and got out of bed and stood upright, but with no improvement, for he sank on the bed again, his face became livid, he ceased to breathe, and his pulse stopped. With the ordinary scalpel in my pocket-case and a pair of dissecting forceps I immediately performed tracheotomy just below the cricoid cartilage, and thrust in my forceps and kept the blades open by inserting my finger between them. Artificial respiration was set up, and the trachea kept open and free from blood, as well as could be done with only one nurse and a porter to assist; and the patient breathed through the opening. As soon as possible I fetched a tracheotomy tube and inserted it into the trachea. Notwithstanding that artificial respiration was kept up and galvanism applied to the cardiac region, the patient died just before the arrival of Dr. Woodhouse, the senior medical officer to the infirmary, having breathed about four times after tracheotomy was performed, and having been in the infirmary less than half an hour.

Post-mortem examination.—For his age he was an exceedingly muscular man and well nourished. Rigor mortis very great fourteen hours after death. The tongue was very much swollen, and there was a bluish mark at the edge, about half an inch from the apex (on the left side), which, if present, had quite escaped my search with the lens on his admission, but would correspond with the situation from which (at the inquest) his companion said he had removed the sting. Before hearing this evidence I had concluded it must have been caused by the forceps used in pulling the patient's tongue forwards when the paroxysm first seized him, and was supported in my conjecture by two of the medical officers of the infirmary and one other surgeon present at the post-mortem. Pharynx not much if at all swollen. The epiglottis and glosso-epiglottidean folds were so œdematous as to look like one large bladder. Rima glottidis quite closed by œdema. Sacculus laryngis obliterated, and only marked by a line where (owing to the excessive œdema) the true and false vocal cords met; below this the trachea was perfectly healthy. Bronchi healthy. Both lungs were emphysematous; the right lung was a good deal congested, especially at lower lobe. Œsophagus and stomach healthy; no trace of wasp. Arteries atheromatous. Heart normal. Right kidney cirrhotic; small calculus in pelvis, which was dilated. Other organs healthy.

REPLANTATION OF TEETH.

BY ISIDOR I. LYONS, M.R.C.S., L.D.S., L.R.C.P. EDIN.

REPLANTATION of teeth as a useful remedy in dental surgery has never been received with much favour by the dental profession. The results of cases prove, however, that at least there are conditions in which it is of great value.

The art and science of dental surgery has not yet arrived at such a high state of perfection that we have a remedy for every disease to which teeth are liable, unless we consider extraction as one, a remedy too often used unfortunately.

The principal affections for which extraction is practised are necrosis, acute inflammation of the pulp, acute and chronic periodontitis, exostosis, and caries. Of these necrosis and exostosis are the only diseases for which extraction is almost unavoidable; for the rest, a tooth affected with any one of them may, in the great majority of cases, be saved by appropriate treatment. But in ordinary practice, extraction is the usual remedy adopted. Unfortunately it is generally the wish of the patient, who, perhaps, having already suffered so much pain, prefers the speediest remedy. On referring to the various works on dental surgery, we find that remedies for different diseases of the teeth are so few in number that he who adds one remedy renders a service to humanity. Such an one is replantation of teeth for acute and chronic periodontitis. This was suggested by Mr. Coleman, after seeing the same remedy succeed for acute inflammation of the pulp of a lower molar tooth, which had resisted every other known kind of treatment.

The principal objection urged against replantation of teeth is, that if a tooth is extracted it must necessarily lose its vitality, and therefore the fangs undergo absorption, so that after a time it becomes useless and must be extracted. Supposing the objection to be valid, as absorption is a long process, sometimes extending over years, it will have been a greater gain for a patient to retain his tooth for an indefinite period than to lose it entirely and at once; but it is no more necessary that a tooth after undergoing extraction and replantation should lose its vitality than for a long bone to do so after fracture, with stripping back of the periosteum. The extraction of a tooth may be divided into two parts—firstly, the laceration of the alveolo-dental membrane or periosteum; secondly, that of the nerve and bloodvessels supplying the tooth. As regards the former, there is no reason why the alveolo-periosteum should not again unite to the tooth, seeing that if a piece of periosteum be stripped off a bone it will unite again if placed in contact with the bone and left at rest. The union of the divided ends of a nerve is also a recognised fact, but even supposing this latter impossible, the tooth would merely be in the condition of one which has had its pulp destroyed—a common operation in dental surgery.

The manner of performing the operation is as follows:—A tooth which is to be replanted should be carefully extracted, and as little as possible of the surrounding tissues lacerated; it should then, unless the operation be simply for the destruction of the dental pulp, and where the periosteum is healthy, be immersed in some antiseptic fluid, such as diluted carbolic acid or chloride of zinc (the latter from experience being preferred); the socket should then be swabbed out some half-dozen times with a strong solution of the same antiseptic employed. The tooth, if carious, should be plugged and returned to its place. If there is any thickening of periosteum, fibrous growth, sac of abscess, or absorption at the extremity of fang, it should be excised before replantation. Should patient complain of pain arising from the operation, prescribe poppy fomentations, although the pain is rarely more than what is due to the tenderness of parts from the laceration of soft tissues after the extraction of the tooth.

Out of twelve cases that I have operated on within the last four years, nine are successful and three have failed. The failures have but one significance, and that is, teeth to undergo replantation must be selected. In a cachectic patient the chances are against success; when a tooth has lost the support of its fellows on both sides, it cannot become firm. Nevertheless, the successful cases warrant a further trial of replantation, which would preserve many teeth otherwise sacrificed. The number of my cases during the last four years were twenty-seven, some of which cannot be traced; the remainder are too recent to be judged. The reason why they are so few arises from the difficulty of inducing patients to believe in such a remedy as replantation.

Finsbury-place North.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

LONDON HOSPITAL.

REMARKS ON CASES OF VERTIGO, REELING, AND VOMITING, FROM EAR DISEASE.

(By Dr. HUGHLINGS JACKSON.)

A MAN, thirty-one years of age, came to the out-patient room on August 1st, 1872, for attacks of auditory vertigo. The following account of his first attack may serve as a specimen. One day, about three months before his admission, he was, when walking home from work, attacked very suddenly by *swimming in the head*; he would have fallen had he not sat down; he felt sick, and also very warm. A

friend helped him, or he could not have walked home; when he looked at the ground it seemed to be going round. When home he took some carbonate of soda, and after this he *vomited*. He slept well that night, and next morning felt well except for a nasty taste in his mouth. He had several attacks of essentially the same kind afterwards. Such a set of symptoms coming on paroxysmally suggested disease of the ear. It is worth while mentioning that the patient said there was nothing the matter with his hearing; but, oddly enough, it was found that he could not hear at all on the right side; and, before the examination of it, it was plain that the right ear was very defective, as was shown by his promptly turning his head to place his left ear towards those who spoke to him. Twelve months before he had put a piece of tobacco soaked in rum into the right ear for the relief of toothache. The syringe brought away a large plug of wax with bits of tobacco. After this he heard very much better, but there was still some deafness. A plug of wax in the external meatus would be a sufficient cause for the attacks the patient had; but he had another attack, although a slight one, after the meatus had been thoroughly cleared out.

Such cases have long been described; they have been described very recently and most ably by Knapp (*Archives of Ophthalmology and Otology*, vol. 2, No. 1). But it is not widely known that ear disease gives a sufficient explanation of the group of grave nervous symptoms mentioned. The tendency is to put down the giddiness, reeling, and vomiting, to disorder of the digestive organs, and especially to some affection of the liver. But in the above-reported case and in many others, there is no dyspepsia, and no evidence at all of liver affection. It is not denied that there is *a vertigo a stomacho laso*; but it is asserted that, of the numerous causes of vertigo, aural disease is a very important one. The "bilious vomiting" is what misleads so very often in diagnosis. Bilious vomiting is, however, of no particular value as evidence of disease of the liver. Bile will always be found in the ejecta after long-continued and urgent vomiting, however caused. And as to vomiting itself, it is a symptom which is found under the most different circumstances; it is found with cerebral tumour, renal calculus, Bright's disease, and, as we see, with aural disease. Those who would not accept the explanation of the dependence of vomiting, reeling, and vertigo on ear disease, are at any rate bound to examine the ears of the patients who suffer those symptoms; if they do, they will be struck by the frequent coincidence of noises in the ear, deafness, &c., with the paroxysmal occurrence of the symptoms mentioned.

The affection of the ear varies in its nature. Meniere, who first described this group of symptoms, supposed the semicircular canals to be in fault. It is well known that the auditory nerve supplies two parts—the cochlea and the semicircular canals. The cochlea is for hearing, the canals (according to Goltz) for regulating movements of the head and trunk. It is certainly a fact that injury of these canals in lower animals produces disorderly movements, and, as stated, Meniere believed that injury of them by disease in man produces the disorderly movement of reeling (vertigo is rudimentary or incipient disorder of movement). But it is enough if the contents of the semicircular canals be interfered with indirectly; for example, if they be subjected to increased pressure from disease in the tympanic cavity. But, as Knapp says, the deafness shows that the cochlea must be affected as well; at any rate the accepted theory is that the cochlea only is for hearing (Helmholtz supposes the cochlea to be the part for musical sounds, the semicircular canals for noises). Knapp has observed in some cases of Meniere's disease what he calls a contraction of the field of audition (analogous to contraction of the field of vision); there is, in other words, deafness for certain groups of musical sounds, and this, Knapp considers, is positive proof that the cochlea is implicated in addition to the semicircular canals.

Dr. Hughlings Jackson thinks that the function of the "canal" division of the auditory nerve is for the regulation of intervals of movements (for more automatic movements occurring in the intervals of a succession of voluntary movements). Hence the association with the other division for musical sounds; both divisions are in action in dancing to music. He believes that the symptoms of sea-sickness may be explained on the supposition that the contents of the semicircular canals are rudely dealt with in the unaccustomed movements of sailing on a rough sea.

ON HEMIPLEGIA, WITH PARALYSIS OF THE THIRD NERVE.

(By Dr. HUGHLINGS JACKSON.)

It is well known that lesions of the crus cerebri can produce paralysis of the third nerve on the same side as the lesion, and of the face, arm, and leg on the other side. But it would be a great mistake to suppose that when we find paralysis of the third nerve on one side, and of the face, arm, and leg on the other, there is necessarily disease of the crus cerebri. In a case manifestly of intracranial syphilis there was the association of symptoms mentioned; but it was pointed out that, *as the ocular palsy came on at a different time from the hemiplegia*, there were no doubt two lesions—syphilitic disease of the right third nerve (a neuroma), and disease of the right side of the brain. At the autopsy the two lesions were found.

If the third nerve be paralysed on the *same* side as the face, arm, and leg, there are of course two lesions—one of the trunk of the nerve, and the other of the motor tract on the opposite side.

KING'S COLLEGE HOSPITAL.

STRANGULATED CONGENITAL INGUINAL HERNIA; OPERATION WITH RADICAL CURE.

(Under the care of Mr. JOHN WOOD.)

CASES like the following are probably more frequent than is commonly supposed; for whereas in the majority of the instances in which a hernia shows itself after childhood the displacement is regarded as being due to a protrusion of the peritoneum, it will often be found that the tunica vaginalis and the peritoneal cavity communicate, and that the intestines are in contact with the testicle; or that the canal has been partially obliterated, so that it will readily admit for a certain distance the protruding bowel, which in turn pushes before it the loose scrotal tissues. An interesting point in connexion with this class of cases is that they not unfrequently occur suddenly when the patient is about twenty years of age, and that the hernia becomes at once scrotal, and is not for any length of time confined to the groin.

For the following notes we are indebted to Mr. William Rose, surgical registrar:—

Edw. J. B——, aged twenty-one, was admitted on March 23rd, with a strangulated inguinal hernia. The patient never noticed any swelling in his groin or scrotum until the day of his admission to the hospital. It appears that on the day before (March 22nd) after lifting a heavy box he felt some pain in the right groin, but could not feel any swelling. On the morning of admission he went to a doctor, who gave him a pill and a draught, after which the pain increased and he vomited. The pain was of a dragging and incessant character. He then noticed what he considered was his right testicle swollen.

On his application at the hospital a tense swelling was seen to occupy the right inguinal region, extending down the scrotum. Ice was applied for two hours, and taxis under chloroform, with the patient so placed that his head and thorax were lower than the pelvis, but without effecting reduction. Mr. Wood then proceeded, with the patient under chloroform, to cut down on the sac. The sac was then opened, and the bowel exposed, which was of a dark chocolate colour. The neck of the sac was then nicked, but the bowel could not be returned, and it was evident that some other cause of strangulation existed. The incision therefore was extended upwards and outwards, and the bowel was found to be constricted by having passed through an aperture in the omentum. On this being divided the hernia was easily reduced.

The rupture was what is termed a congenital hernia—that is to say, the knuckle of small intestine that was strangulated was in contact with the testicle, the tunica vaginalis forming the sac.

After reduction had been effected, Mr. Wood passed the wire in the ordinary way through the pillars of the ring, in order to effect a cure of the rupture. The wound was brought together with sutures, and carbolic dressing ap-

plied. The bowel may be judged to have been strangulated from ten to twelve hours.

March 24th.—Slight sickness. Temperature 100·5 °F. Slept four hours.

25th.—No pain; has not been sick again. Temperature normal; pulse 108.

26th.—Dressings removed. Wound looks healthy, a great part of it having united by first intention.

April 7th.—Wires removed; wound healed except where the wires were.

10th.—Slight pain and swelling about the seat of operation, which is flushed. Poultices to be applied, and sulphocarbonate of iron to be taken internally.

14th.—Pain, redness, and swelling gone. The sinuses remaining, where the track of the wire lay, are healing up.

26th.—Patient discharged cured.

EDINBURGH ROYAL INFIRMARY.

CASE OF SPASMODIC DYSMENORRHŒA.

(Under the care of Dr. MATTHEWS DUNCAN.)

THE following case illustrates very clearly the symptoms of the so-called mechanical dysmenorrhœa which, according to some authorities, is in almost every instance due to a flexion of the uterus. Whatever may be the frequency of flexion of the uterus, and it varies greatly with different practitioners, it is certain that this bent condition of the organ may sometimes cause painful and irregular menstruation, but it would appear from the evidence of good and unprejudiced observers that the part which a flexed uterus plays in the female economy has been greatly exaggerated.

M. H——, twenty-nine years of age, married for four years, has no children, was admitted to Ward 16 on the 26th of June, 1873, complaining of pain during menstruation. Patient is a strong-looking, stout, ruddy-complexioned female, and with the exception of the complaint mentioned, enjoys, and always has enjoyed, good health. The dysmenorrhœa commenced when patient was sixteen years old—at which age menstruation began,—and has continued without intermission ever since. The discharge is preceded generally by vomiting, and the pain accompanying it is of so severe a character that it necessitates her lying in bed for four or five days. The pain is referred by her to the hypogastric and lumbar regions, more especially the former.

July 4th.—On vaginal examination during the day preceding a monthly period, nothing particular is discovered. On passing No. 9 of the series of uterine bougies (corresponding to the male urethral series), patient complains loudly as soon as the internal os is reached, and this number is as large as can be easily passed.

July 5th.—Patient is menstruating to-day. No. 9 sound passes without pain. No. 12 bougie causes the same pain that No. 9 did on the former occasion. No. 14 was passed.

6th.—The patient declares herself quite free from pain. No. 14 bougie goes into the cervical cavity quite easily.

14th.—Has been quite free from pain since last report. She says that she has never had such an easy monthly period.

15th.—Dismissed at her own request.

One case proves very little, but this is a good example of the use and efficiency of treatment by bougies. The success certainly astonished the woman very much. This case also illustrates very distinctly one branch of the argument against the mere mechanical character of this dysmenorrhœa, which is more justly called spasmodic. It was a characteristic case of what is called mechanical dysmenorrhœa. The internal os uteri was very sensitive, tender, and rigid, yet it easily passed a No. 9 bougie, indicating a passage of dimensions quite natural, and more than sufficient to transmit the menstrual flow. Moreover, in this case the state of the internal os during the flow was examined, and it was then found enlarged, not contracted; it then allowed a No. 14 bougie to pass easily. In short, with all the symptoms of so-called mechanical dysmenorrhœa, there was not only no obstruction, but more than usual enlargement of the passage of exit for the menstrual fluid.

BELFORD HOSPITAL, FORT WILLIAM.

CASE OF PURPURA.

(Under the care of Mr. JAMES W. ALLAN.)

C. C——, aged twenty, crofter's daughter, admitted to hospital May 23rd, 1873, suffering from purpura. In the month of March she was treated as an out-patient for an attack of the disorder, by Dr. Blair, of Fort William. When she came under his care she was very ill indeed, the petechiæ and vibices being all over the body, limbs, and face; even the tongue and throat were affected. Discharge of blood from vagina so profuse as to constitute a sort of flooding; at the same time bleeding from gums, epistaxis, hæmatemesis, and melæna. Under his care she made a good recovery. The malady returned, however, and as she lived among the hills, out of the way of daily medical attendance, she was advised to come into hospital.

The following brief notes were taken on May 24th, the day after admission:—"About a fortnight ago the 'spots' began to come out again. At present the vibices are to be seen on the left forearm only, which looks just as if it had been 'blackened' by violent blows. There is swelling of left hand, and the affected limb seems of lower temperature than the other. Patient complains of pain across stomach; pain never goes away, but is aggravated at times, as after taking food; complexion not bad; no vomiting at present; menstruates every three weeks since former attack; no melæna nor epistaxis; has palpitation of the heart. Takes her food, but without appetite. Has a sinus in thigh which has discharged for many years. Pulse about 72, not regular; bowels regular; tongue pretty clean. To have good diet, including milk and porter. Put on tincture of muriate of iron and infusion of calumba. It was found on inquiry that patient's usual diet for two years before first attack consisted in porridge and milk, tea, and salt meat in the form of 'braxy.'"

May 26th.—Epistaxis.

June 2nd.—Patient threatened with a fainting fit, and in a state of nervous tremor. Rapid pulse; pain over middle of sternum. No hæmorrhage. Menstruated last exactly two weeks ago.

3rd.—Patient is better; but a dusky spot has come out on right arm.

4th.—Urine examined and found to be normal in colour; very low specific gravity; considerable amount of mucous sediment; tested with nitric acid and heat, no albumen detected.

8th.—Patient began to menstruate yesterday.

10th.—Brought up some blood. Ordered a mixture containing gallic and sulphuric acids.

14th.—Colouration of arm varying from purple to greenish-yellow. Ordered five grains of citrate of iron and quinine three times a day.

17th.—In spite of a good supply of fresh animal food, porter, and ferruginous tonics, a fresh outburst of petechiæ has taken place. An examination disclosed the following state of affairs:—Petechiæ on arms, legs, chest, &c.; pulse 90; respiration 26; temperature 97·6°. Of the spleen, owing to circumstances, nothing satisfactory was ascertained. Extensive dulness existed in left hypochondrium, extending down into abdomen. Heart-sounds normal in rhythm, but faint and muffled. The microscope revealed the red corpuscles of the blood crowded on the field, not arranged in rouleaux. They appeared crenated and shrivelled. Bowels quite regular; tongue pretty clean; urine normal. Patient states that when an attack comes on the sinus previously mentioned discharges a fluid coloured like blood.

18th.—Very slight knock on cheek produced typical "black eye."

29th.—The patient was ordered cod-liver oil, and to continue the ferruginous tonic. It was resolved to give her a trial of lime-juice, which has been recommended in this affection. Ordered a tablespoonful three times a day.

July 1st.—Patient is menstruating. Discharge of blood very copious. She changed a fortnight ago.

3rd.—Discharge of blood much lessened. Large dark vibices out on thigh.

8th.—Patient's appetite and spirits have been rather better of late, but large dark spots have come out on leg.

13th.—Fresh dark spot on arm. Patch of extravasation on mucous membrane inside lip. Sinus in leg continues to discharge red fluid.

19th.—Half a dozen vibices out on arm.

Patient left the hospital on July 21st, intending to drink the waters of Strathpeffer.

Remarks.—Patient was under treatment for two months. Although her general health was somewhat improved, it did not seem that the treatment had much if any effect on the *purpuric diathesis*. The bowels were attended to—she got iron and quinine, cod-liver oil, porter, fresh butcher-meat, milk, fresh vegetables, lime-juice, gentle exercise, fresh air; but, in spite of all this, fresh spots came out, and discharges of blood took place from time to time. The appetite and spirits were bad all through her residence. She belongs to a delicate, strumous family. One of her brothers takes cod-liver oil continually. One of her sisters was affected with psoriasis, and another of them was very delicate before puberty.

At end of 1868 patient was treated for scrofulous disease of the knee by Dr. McKendrick, now of Edinburgh University.

Reviews and Notices of Books.

Clinical and Pathological Observations in India. By J. FAYRER, M.D., C.S.I., &c. London: J. and A. Churchill. 1873.

THIS volume is the continuation of a work published by Dr. Fayrer in 1866, under the title of "Clinical Surgery in India," and contains the results of his experience from that time to the present year. As in the former volume, the author takes for his motto—

> "Non hypotheses condo, non opiniones vendito
> Quod vidi scripsi."

This work is essentially practical and clinical in character, consisting almost entirely of the records of cases from the author's hospital or private practice, with such remarks as naturally arise from their consideration. Dr. Fayrer is so well known from his former works as an accurate and thoughtful observer, that it is scarcely necessary for us to say how interesting such a work from his hands must be to every practical surgeon.

The book commences with an Address in Surgery delivered before the annual meeting of the Bengal branch of the British Medical Association in 1868. The author has taken for his chief subject the prevention of so-called hospitalism. The state of the Calcutta Hospital seems to have been at one time very bad, pyæmia and the allied diseases being very frequent, but by careful management the deaths from these causes after operations were reduced from 21·68 to 11·18 per cent. This improvement was in a great measure due to an increase in the cubic space allowed to each patient, but in addition to this Dr. Fayrer is of opinion that he was "in no small degree indebted" to "the application of the antiseptic principle in the treatment of surgical disease." It is the use of carbolic acid as a "protective and not as a corrective," on the principle advocated by Mr. Lister, that the author has found so useful, although he is not prepared to speak of the method with the "unqualified enthusiasm of some of its advocates." On the other hand, as far as we can see, Dr. Fayrer has only made use of the earlier and cruder methods of dressing invented by Lister, which were naturally imperfect and uncertain in their action.

Next follows an article on the "Pyæmia of Osteo-myelitis," in reply to a statement made by Dr. Braidwood in his treatise on Pyæmia, to the effect that the evidence producible in support of Dr. Fayrer's theory on this subject was very small. We think Dr. Fayrer need scarcely have taken so much trouble to refute such a statement. Almost all practical surgeons are now agreed that diffuse inflammation and suppuration in the cancellous tissue or medullary canal of long bones is one of the most frequent sources of pyæmia. Dr. Fayrer is a strong advocate of removal of the affected bone as soon as the diagnosis is made, as originally suggested by himself in his former work. He records one remarkable case in which acute osteo-myelitis set in after amputation of the forearm. Amputation was at once performed through the shaft of the humerus, but the disease reappeared in that bone. Finally the arm was removed at the shoulder-joint, and the patient made a good recovery.

The author next draws attention to a cause of death after surgical injuries and operations which has been but little studied up to the present time. The condition referred to is that of "obstruction of the right side of the heart, produced by the formation there of firm white fibrinous coagula, by which the pulmonary circulation is embarrassed and finally arrested, causing death." Such clots are of course a frequent occurrence in cases of slow death from any cause, and especially in fevers, diphtheria, cholera, pyæmia, &c., but as an uncomplicated cause of death they are fortunately rare. Dr. Fayrer thinks, however, that, if the post-mortem examinations of cases recorded as dying of shock or exhaustion were carefully revised and analysed, it would be found that a certain number were due to the condition in question. The author is of opinion that it is caused by some blood condition either induced by the wound or pre-existent in the patient, but he has nothing very definite to suggest; in fact, it is doubtless due to a variety of causes at present but little understood.

In a chapter "On the Use of certain Articles in Surgery," Dr. Fayrer records some experiments on the use of petroleum as an antiseptic; from which he concludes that its virtues are such as to suggest the advantage of a further trial.

Under "Cases of Tetanus" we have three instances of recovery out of five cases. In one the median nerve was divided on the seventh day; and chloroform, hemp, ice to the spine, and opium were also used in the treatment. The case was, moreover, somewhat mild, so that some doubt must exist as to the part taken in the cure by the operation. The two others were treated by chloral and amputation of the injured member: in one case a finger, and in the other a toe.

Seven cases of paracentesis of the knee-joint for synovitis have led the author to the conclusion that, "in chronic effusions, this practice may be resorted to with impunity; but even in acute synovitis it may be also employed, and with the greatest relief, although probably with more risk." Of the seven cases, four were chronic, two subacute under one month's duration, and one acute following the removal of a small tumour from the neighbourhood of the knee-joint. The instrument used was in all cases a small canula and trocar.

Under the heading "Bites of Animals" Dr. Fayrer records cases showing the fearful nature of the wounds inflicted by sharks. In one the whole of the soft parts at the back of the thigh were torn away, exposing the head of the femur, the neck of which was nearly cut through by a deep tooth mark. Amputation at the hip-joint was performed; but, of course, with a fatal result.

It is impossible for us to mention here half the interesting and instructive matter which is to be found in this work; containing as it does the records and statistics of cases of all the major surgical operations, and of numerous minor cases of all kinds. The reports are brief and clear, and, all unnecessary detail being excluded, they are presented in a readable form without losing any of their scientific value. The thanks of the profession are due to Pro-

fessor Fayrer for having thus communicated to us, as far as possible, the results of his great experience; and we may hope at some future time to see a third volume as instructive as its predecessors.

Manual for Medical Officers of Health. By EDWARD SMITH M.D., LL.B., F.R.S. London: Knight and Co., Fleet-street. 1873.

THE Public Health Act of last year has, considering its importance, produced a comparatively small amount of literature published for the benefit of those who are supposed to superintend in carrying out its provisions and requirements. We have already passed in review Dr. Wilson's small but useful work, and the new edition of Parkes's Hygiene, which will shortly be noticed in THE LANCET, contains a large additional amount of matter specially calculated to assist medical officers of health. The book now before us has evidently been written with a similar purpose. It emanates from the pen of one who has had a great deal of official experience at Whitehall, and may, therefore, be fairly entitled to write as it were *ex cathedrâ*. The table of contents shows chapters on the causes and distribution of disease; personal action that may be taken by medical inspectors under the Disease Prevention Act, 1855, and during an attack of epidemic disease; an explanation of the reports by the inspector of nuisances in reference to overcrowding; on food unfit for use, on offensive processes of trade, on trades under the supervision of special inspectors (as indicated by the Alkali, Coal Mines Regulation, Factory, and Workshops Acts), on dangerous substances used in trades, and on routine attendance. Tables on various subjects are appended, as well as a list of public Acts. There can be little doubt that the book contains many useful practical hints, though the diction is cautious, and the advice sometimes vague. Some ten pages are occupied with extracts from the Contagious Diseases Acts, which, though useful in themselves, do not at present apply to medical officers of health appointed under the Act of last year. It appears to us, however, that the value of this book as a work of reference, or as a text-book for the use of newly-appointed health officers, is considerably lessened by the almost utter absence of all reference to the labours of Mr. Simon and his *confrères* at the Medical Department of the Local Government Board. It is strange, and we must say significant, that this Department and the Army School of Hygiene instituted at Netley appear to be well-nigh ignored by Dr. Smith, although it is notorious that Mr. Simon and Dr. Parkes, with their respective staffs, laid the first solid foundation of practical hygiene in this country, of which the Public Health Act of 1872 is the direct, though somewhat crude and unripe, fruit.

The Relations of the Air to the Clothes we wear, the House we live in, and the Soil we dwell on. By MAX VON PETTENKOFER, Professor of Hygiene at the University of Munich, &c. Abridged and Translated by AUGUSTUS HESS, M.D., M.R.C.P. Lond., &c. London: N. Trübner and Co. 1873.

THIS little book consists of less than a hundred pages of most excellent matter, set forth by a man who both knows what he has to say and how to say it. We do not remember to have read a better specimen of what popular lectures should be; for there are no wordy platitudes or pieces of fine writing. The information is scientific and precise, without being dry or pedantic. The lectures are elementary, no doubt, but they may be read with interest by those who have already studied the subjects as well as by those who have not, and, if read intelligently, with advantage to both classes. The lectures are popular outlines, and must be taken as such. They were delivered before the Albert Society at Dresden, a Ladies' Association which aims chiefly at training efficient female sick nurses, and at other charitable purposes, and they appear to have been admirably translated. Prof. Pettenkofer is careful to state that popular lectures on *scientific* subjects will not impart really competent knowledge, and will not form experts. It is the mission of such lectures, he says, to create correct general ideas, to facilitate our grasp of them, and to awaken and spread a certain love for different tasks of mankind and of the period, to form friendships between things, ideas, and men. We will add that, whatever may be said of other popular lectures, the perusal of these will not tend to create or augment that dilettantism from which our period is suffering.

The first lecture is on the relations of the air to the clothes we wear, and on the three different ways in which warm and humid bodies lose their heat when placed in a cooler atmosphere. Observations by Professors Voit, Recknagel, and the author are detailed, with the experiments of Krieger as to the variations of heat-loss produced by differences in the nature, quality, and colour of the materials of our clothing, and by altering the shape and volume of the same substance. The observations of Krieger by tightly surrounding cylinders filled with warm water with single or double textures, bring out one thing which is not so generally appreciated as it might be—namely, that it is not the substance and its weight, but the texture and the volume that are the principal causes of the differences observed in the heat-loss. The usual explanation of the death of animals shorn of their fur and varnished or oiled is incorrect. Their death is not due to the suppression of the evaporation from their skin, but from loss of temperature. Krieger sheared a rabbit, after noting its temperature and frequency of respiration. He used no varnish, but simply enveloped the animal in a wet cloth. The temperature of the room was 66°; the animal lost so much heat that its interior temperature after five hours had fallen from 102° to 75°, and its respiration from 100 to 50 per minute.

The lecture on the relations of the air and the houses we live in is good. Pettenkofer's method for the estimation of carbonic acid is, by the way, about the best; but we have in this country somewhat advanced beyond this point. No doubt the amount of CO_2 may practically be taken as a measure of all impurities, but valuable results are obtained by supplementing this test by microscopical examination of suspended matters, and the estimation of organic (nitrogenous) matter in air by conversion into ammonia. The observations on the porosity of various substances used as building materials, on the causes of damp in general, and that of new houses in particular, are worth reading, and the experiments detailed in illustration of the statements advanced are simple and to the point.

The last lecture, however, or that on the relation of the air to the soil, and on the ground air, will probably be read with most interest, as it contains observations that will be quite new to many people. We have ourselves derived much information from it. A great deal was done in this country, in the days of the Board of Health, with reference to the question of soils and building materials which has been well-nigh lost to the public.

OUR LIBRARY TABLE.

Surgical Cases in Relation to Temperature. By JOSEPH BELL, F.R.C.S. Ed., Surgeon Royal Infirmary. Edinburgh: Oliver and Boyd. 1873.—This pamphlet consists of a paper read by the author before the Medico-Chirurgical Society of Edinburgh, and printed in the *Edinburgh Medical Journal* for August. The cases selected as the source of information

are twenty-five in number. About double the number of operation cases had to be discarded, either because the thermometric observations were not sufficiently prolonged, or because of doubts as to the accuracy and care of the observer. The author adverts to an amusing illustration of the latter. The nurse's observations at night in one interesting case were always found to correspond with those taken in the forenoon of the same day. This was explained by the fact "that she put the thermometer in upside-down." The following are the results arrived at by the author:—(1) Suppuration, even very profuse, does not necessarily imply any great rise in temperature, so long as it is not putrid. (2) Fetor or putrefaction of suppuration always induces a rise in temperature. (3) A high temperature, lasting for more than three or four days after the injury or operation, indicates impending mischief, such as sloughing or abscess. (4) The temperature generally gives warning a day, or even two days before the pulse.

Notes on the Pharmacopœial Preparations. By W. HANDSEL GRIFFITHS, Ph.D. and R.C.P.S. London: Ballière, Tindall, and Cox. Dublin: Fannin and Co.—These notes will be found useful to students engaged in the study of materia medica and the British Pharmacopœia. The notes are faithful, although occasionally exhibiting haste in compilation. Should a second edition be demanded, the book will probably be revised and improved.

The Childhood of the World: a Simple Account of Man in Early Times. By EDWARD CLODD, F.R.A.S. Second Edition. London: Macmillan and Co. 1873.—Medical men and persons acquainted with the researches of Lyell, Tyler, Lubbock, Nilsson, and others, must often have felt desirous of telling their children the story of the childhood of the world in a way that they can understand. Here is just the little book to suit their purpose. It is charmingly written, simple, interesting, and intelligible to young people of ordinary intelligence. The author has managed to weave the results arrived at by our best ethnologists into a series of short chapters, so as to make a book of pleasant pattern and healthy tone.

THE BEAUPERTHUY TREATMENT OF LEPROSY.

WE recently announced in brief terms that Lord Kimberley had sent to the College of Physicians some important papers for the information of the College, relative to the Beauperthuy system of treating lepers, which has been very carefully tried during a period of two years at Kaow Island. As the subject has attracted a good deal of attention, we now propose to place our readers in possession, first of an important report upon the system, which was drawn up by Dr. Shier, the Medical Inspector of the Estates Hospital, and Dr. Manget, the Surgeon-General, who made a special visit on the 13th and 14th of May, 1873, to Kaow Island for the purpose, at the instance of the Governor of British Guiana; and, secondly, a critique upon this report by a committee of the College of Physicians (comprising Dr. J. Jackson, Dr. Tilbury Fox, and Dr. Fayrer) to whom the matter was referred for any special comment that they might think it necessary to make to the College upon the subject.

Drs. Shier and Manget state "that they had, as the basis of their examination, the description of the cases of leprosy then in the asylum, made by Drs. Shier and Anderson on the 2nd and 3rd of March, 1871"—two years previously. The cases then numbered twenty-two on the island, and seven new ones were subsequently admitted. Of the first series of cases one died and three ran away. In their examination the reporters "took each patient separately, and compared his present condition with that presented by him when first seen by Drs. Shier and Anderson in March, 1871, examining each feature of the case and carefully noting it." Twenty-five cases were examined. "Of these, eleven showed marked signs of improvement, five had slightly gained ground, and nine had made no improvement, several, indeed, having retrograded." The reporters continue—"It will be remarked that in the cases in which tubercles and hypertrophy of the integuments were developed, these symptoms have nearly always disappeared. The leper spots seem to be more difficult of eradication. Anæsthesia, also, has been obstinate in many cases, especially when affecting the lower extremities, whilst in every instance where contraction of the fingers exists there has been no amelioration in this symptom." "There can be no doubt that on the whole there has been considerable improvement; the disease has, at any rate, been arrested. But," they continue, "are these improvements or check to the progress of the disease due to the treatment? We are of opinion that the different means used by Dr. Beauperthuy in his treatment of leprosy might contribute to arrest the disease and favourably modify its symptoms if the patient be placed in good hygienic conditions, and if the disease be taken in hand in its incipient stage, when no organic complication has occurred. Although there has been improvement in many of the cases, we would have expected a greater change in the appearance of the patient after upwards of two years of treatment. The characteristic appearance of the leper is still painfully seen, and there can be no mistake as to the disease under which the patient is labouring. We must attribute a good deal of the benefit derived by the inmates of Kaow Island to the healthy locality, to the good and wholesome food furnished them, and to the regular life they are obliged to lead. . . . In conclusion, we are of opinion that if the incipient cases of leprosy were at once removed to Kaow Island, with its present hygienic regulations adhered to, the disease would in most cases be arrested, and that many of the inmates would be returned to their families, we do not say cured, but so much relieved as to become again useful members of society."

The Committee of the College of Physicians above referred to reported upon the different points of the question submitted to them as follows:—

After expressing an opinion that the communication sent by Lord Kimberley to the College is of great professional interest, they remark—

1. The facts contained in the report of Drs. Shier and Manget coincide with those which have already been made known to his lordship through the inquiries of Dr. Bakewell in Trinadad, and those of Dr. Gavin Milroy, embodied in his recent report upon the Beauperthuy treatment of leprosy in the West Indies.

2. These facts fully warrant the College in affirming—(a) that at present no cure for leprosy has been discovered; (b) that leprosy may be arrested and its external manifestations (especially the tubercular formations in the skin) considerably lessened in extent and severity by a combination—such as that approved by Dr. Beauperthuy—of hygienic, dietetic, and medicinal measures, and the local use of various agents which promote the absorption of the material forming the tubercles; (c) that the Beauperthuy treatment is founded upon no new principle of treatment, and differs only from other treatments in matters of detail, though great credit is due to Dr. Beauperthuy for re-exciting the flagging attention of the medical profession to the possibility of alleviating the condition of the leprous, especially by improved hygiene and diet, and the use of medicinal tonics.

3. The report of Drs. Manget and Shier shows an improvement in certain cases of leprosy, no improvement in others, and a decided increase of the disease in a third set of cases, and this after a full and fair trial of the Beauperthuy system during two years. Drs. Manget and Shier state themselves that they "would have expected a greater change in the appearance of the patients after a period of two years' treatment."

4. The Committee concur with Drs. Manget and Shier in attributing the improvement in the lepers greatly to the effect of removal to a healthy locality, the good and wholesome food, and the regular life they lead on Kaow Island. This is in entire accord with the observations of competent practitioners in different parts of the world.

5. The Committee at the same time are of opinion that

the investigations which have been made of late as regards the condition and the medical treatment of the leper are such as to give special encouragement to communities amongst whom lepers exist to properly house, clothe, and feed them, and to provide them with proper medical treatment, with the certainty that much of their disease will be arrested or mitigated, and their naturally miserable existence rendered much more endurable.

The College of Physicians, at its last meeting, adopted the report of its Committee as its own, and has thus given the profession what was much needed—viz., a distinct and authoritative decision as to the value of the Beauperthuy plan of treating the leprous.

EMIGRATION.

THE thirty-third and last Report of the Emigration Commissioners has just been issued, and contains much valuable information as to the general and sanitary condition of the large proportion of our population who have emigrated from this country during the past year. It appears that a total of no less than 295,213 persons left the United Kingdom in 1872, of whom, however, 118,190 were English, 19,541 Scotch, 72,763 Irish, and 79,023 foreigners, whereas the nationality of 5696 persons was not distinguished. These statistics show that, during the past year, a largely increased number of foreigners passed through the United Kingdom for emigration purposes. This fact indicates distinct sanitary aspects to which we desire to call special attention, because it clearly increases the responsibilities of port sanitary authorities. Vessels arrive at Hull, Great Grimsby, and other eastern ports, from the Baltic with consignments of German, Swedish, Danish, and other emigrants; they are sent across to Liverpool by the Manchester, Sheffield, and Lincolnshire Railway; they usually remain at Liverpool some few days, and, as we are informed, are most admirably supervised by Dr. Trench, medical officer of health for that town. It is, however, of the utmost importance that these emigrants should be inspected before they are permitted to land in the United Kingdom, especially when they arrive in the autumn months from ports infected with, or suspected of, cholera. And we have learnt lately that instalments of foreign emigrants are occasionally brought up the Thames for transhipment, and detained for some little time at lodgings in the East of London. There can be little doubt that cholera was introduced into Whitechapel in this way some few weeks ago, and was rooted out only by the energetic and combined action of the central and local authorities. The sanitary authority of the port of London is already fully alive to the importance of the matter, inasmuch as arrangements have been made whereby the medical officer of the port shall have ample opportunities for the examination of emigrants arriving under these special circumstances. The importance of this question can hardly be exaggerated, because we are but just becoming alive to the enormous influence exerted by the shipping on the general health of the home population.

In summarising the general emigration statistics of the past year, we find again, almost as a matter of course, that the increased use of steamers has much diminished mortality on the voyage. Among 230,531 emigrants in 545 voyages to North America, the deaths were only 102, which, taking the voyage at twelve days, is equal to a mortality of 13·38 per 1000 per annum.

The emigration from the East to the West Indies indicates a larger mortality than usual, and may be taken to show the inexpediency, on climatic and general sanitary grounds, of despatching ships from Calcutta late in the season, when they encounter adverse winds in the Bay of Bengal, and so do not arrive at the Cape until the cold weather has commenced. Steamers in lieu of sailing ships have, in several instances, been lately employed for the conveyance of coolies between India and British Guiana, and, as to sanitary aspects, with great success.

A variety of important sanitary measures as to immigrants have been passed by the Canadian Government during the past year, all tending very materially to conduce to the welfare of the increasing population of that colony.

Emigration from this country, as well as from the United Kingdom as a "place of call," is now assuming very large proportions, and we trust that the work hitherto conducted by the Emigration Commissioners will be well and efficiently performed by the Board of Trade, to whom the conduct of all matters connected with emigration was transferred at the end of last year. We still believe, as our special report on Emigrant Ships indicated, that the medical inspectors of the Board should have more work to do, and be saddled with far more responsibility.

Foreign Gleanings.

FEEDING WITH PEPTONES IN DISEASE OF THE STOMACH.

A RECENT number of the *Gazette Médicale* has an article on the above. About two pounds of lean meat, chopped into pieces, are put into a china pan, with one litre of water containing two-thousandths of hydrochloric acid. The pan is then put into a Papin's kettle, perfectly sealed, and subjected to maceration for about fifteen hours. The contents are then crushed in a mortar until they constitute an emulsion, and then put back into the kettle again for about fifteen hours. The substance thus obtained must be then completely neutralised with bicarbonate of soda, and evaporated afterwards to the consistence of pap. When thus prepared this soluble meat is generally well accepted by patients. Milk and pounded biscuit may, however, be added for variety, and in order to avoid too great uniformity of food.

CHANGES IN THE URINE OF SATURNINE SUBJECTS.

At a late sitting of the Société de Biologie, Dr. Bouchard, of La Charité Hospital, made a communication on the above subject. During the acute stage of symptoms, when the patients do not take food or bring up what they eat, the quantity of urine may diminish considerably, and, furthermore, the proportion of urea and extractive matter is much less than in an equal quantity of normal urine. On the other hand, the proportion of other substances is greater (for instance, the quantity of colouring matter is ten and even twenty times more considerable than in the normal condition), and they very likely proceed from the rapid destruction of blood-globules. According to Dr. Bouchard, the action of lead does not hinder the elimination of uric acid, and he has not been able to detect the presence of this principle in the blood nor in the serum of blistered surfaces.

POISONING BY SNAILS.

In the June number of the *Montpellier Médical* Dr. Dumas relates the circumstances of a case of poisoning of seven individuals who had eaten snails at dinner. They were all affected with sickness, diarrhœa, giddiness, fever, &c. No doubt could be entertained as to the cause of the poisoning. The seven persons had all eaten of the snails, whereas they had not all eaten of the other dishes served up at the dinner. The pan in which the snails had been cooked was in perfect condition, and had been freshly tinned. The poisoning, therefore, took place through the snails themselves. It is well known that they often feed on poisonous plants, such as belladonna, digitalis, and hemlock, and on the field from which the snails which were eaten had been gathered were found boxwood, euphorbia, and prickwood. It is on account of this that snails gathered to be eaten are generally submitted to a few days' previous fasting.

A CAUSE OF RECURRENCE OF VESICO-VAGINAL FISTULÆ.

In the last number of *Archives Médicales*, Dr. E. Bourdon draws attention to a cause, not generally known, of return of vesico-vaginal fistulæ. By the word "recidivation" he does not mean, of course, incomplete cicatrisation of the original fistula, or a new fistula produced by parturition, but to causes of recidivation already well known—such as menstruation, protracted retention of the catheter in the bladder, inflammatory softening of the cicatricial nodules,

&c. Dr. Bourdon adds a new one that is well worthy of attention—namely, the influence of pregnancy, which during the first months may produce spontaneous rupture of a cicatrix of vesico-vaginal fistula, even after a cure of six years. The rupture is caused by the disturbance which takes place in the vitality of the tissues through the process of gestation.

The vagina becomes varicose during pregnancy, and the rupture of the cicatrix of the fistula may be compared to spontaneous rupture of a cicatrix covering a varicose ulcer of the leg. As this varicose condition may favour, in case of an operation, the production of phlebitis and purulent infection, Dr. Bourdon recommends abstention from operating for vesico-vaginal fistulæ during pregnancy and for some time after parturition.

TRANSPLANTATION OF THE MARROW OF BONES IN SUBPERIOSTEAL AMPUTATIONS.

A paper on this interesting subject was read at the last sitting of the Paris Academy of Sciences by M. G. Felizet. The author's results are based upon the observation of a case of amputation on a young man of twenty-six, and on various experiments made upon dogs. They may be briefly summed up as follows:—(1) Transplantation of bone-marrow into a fold formed by the periosteum of long bones, presents the most favourable conditions for the success of grafting. (2) Occlusion of the marrow thus grafted, under a fold completely sutured, has the effect of producing the cure of osseous stumps by an anatomo-pathological process identical with that which leads to the formation of callus in simple fractures. (3) Accidental opening of the fold does not render grafting of the marrow impossible—it only renders it incomplete by favouring the exit of a portion of the transplanted tissue. It may induce osteo-myelitis, but in the same way as simple section of bones, in the open air, in ordinary amputations.

ABSORPTION OF OXYGEN BY THE BLOOD OF ASPHYXIATED ANIMALS.

It is known that oxygen mixed with the blood of asphyxiated animals cannot be entirely withdrawn by means of the exhausting pump; a portion is absorbed and replaced by carbonic-acid gas. Dr. Afonassieux states that, as the result of his experiments (*Centralblatt für die Med. Wiss.*, No. 21, 1873), the serum contains no principle capable of uniting with oxygen; it is the white and red corpuscles in the asphyxic blood which have the property of combining with oxygen and of producing carbonic acid.

ACTION OF ARTERIAL PRESSURE ON THE LYMPHATICS OF THE BRAIN.

Dr. Gaethgens, from a series of experiments practised on horses, has stated that when blood is injected into the carotid with strong pressure, the lymphatics of the same side give out a quantity of lymph far greater than the normal quantity calculated before the experiment. He therefore concludes that increase of arterial pressure in the brain acts mechanically on perivascular lymphatic sheaths, and suddenly determines their depletion. Prolonged tension of the arteries favours compression and œdema of the brain. *Allgemeine Med. Central Zeitung*, 1873.

OZONISATION OF AIR IN THE SICK ROOM.

Dr. Lender (*Deutsch Klinik*, No. 19, 1873) proposes an easy means of carrying out the above object. He mentions the use of a powder composed of peroxide of manganese, permanganate of potash, and oxalic acid, which has the property of giving out, in contact with water, an abundant quantity of ozone. For a chamber of middling size he uses about two tablespoonfuls of the powder, over which he pours from one to one and a half tablespoonfuls of water every two hours. In this way the quantity of ozone produced is exactly what is wanted; the presence of a larger quantity in the air would occasion a cough. All kinds of metals, except gold and platina, must be removed from the room on account of the oxidising effects of ozone.

USE OF IODINE IN CROUP.

In the *Aertzl. Intell. Bl.* Dr. Welsch suggests the use of iodine in the treatment of croup, and relates a case in which the employment of the drug in daily doses of one drop to a tumblerful of water was extremely successful.

CASE OF HIGH TEMPERATURE IN RHEUMATIC FEVER.

To the Editor of THE LANCET.

SIR,—I have just attended a case of rheumatic fever (unfortunately to a fatal termination) where the extraordinary high temperature reached some hours before death, at the moment of death, and for some time afterwards, you may perhaps deem worthy of record.

The patient, a tall, spare, phlegmatic young man of nineteen, debilitated by a series of "training" for athletic sports, and with a faint systolic bruit, was seized with all the symptoms of acute rheumatism on Saturday, the 5th inst. He had felt "out of sorts" for some days, and dated the commencement of his uncomfortable feeling to a chill he had after coming out of a swimming bath, in which he had remained for some considerable time. The feet and ankles were the parts first affected, the inflammation rapidly spreading upwards to the knees, hips, and back; and, on the third day of the fever, attacking the heart with tremendous vigour. The pain and oppression of the chest were now very severe, breathing difficult, and the stethoscope revealed a loud, rough, almost rasping double murmur over the body and apex of the heart. Over the base the second sound was sharper and shorter, and more nearly approaching its normal character.

From the first day of the attack the temperature never fell below 101·8° Fahr., and did not exceed 103·4° (the higher point being generally recorded at my evening visit, about 10 o'clock) till Monday, the 14th, and the ninth day of the fever, when the perspiration in which the patient up to the time had been drenched somewhat suddenly ceased, and on my visit at 10 in the morning I found the temperature had risen to 104·7°, the highest point yet attained. The skin was then dry and pungent, but there was no decided increase in severity of the other symptoms. Pulse 112; respiration 22. At 4 P.M. the temperature had risen to 105·4°, pulse 120; and from this point set in the most rapidly fatal train of symptoms I ever witnessed. At 5.30 the thermometer indicated 107·6°, and now the patient, who had been perfectly calm and rational through the whole of this illness, having so recently as during the forenoon asked his mother to read the account of the Eton and Harrow cricket match to him, became violently delirious. Pulse countless, intermittent; heart sounds a perfect tumult.—6 o'clock: Continued diarrhœa; motions intensely fetid. At 6.30 the mercury stood at 108·8°. Delirium suddenly subsided, and he sank back exhausted and dying. Pulse at wrist gone; power of swallowing gone; respiration 30; mucus collecting in bronchia. At 7.33 he sank and died, overwhelmed and burnt up by the intensity of the fever. At the instant of death the extraordinary temperature of 111·4° Fahr. was reached, indicated by two thermometers, one in the axilla and one in between the scrotum and thigh, that in the groin indicating ·2° higher temperature than the one in the axilla; and this temperature was maintained for ten minutes after death, when my observations ceased.

This is the highest point I have ever seen the thermometer reach in any disease, and I am not aware whether such a very high temperature has ever been recorded in any case of pure rheumatic fever. I can find none in any of the works on the subject within my reach. Dr. Aitken mentions 110° as occasionally met with before death, and Wunderlich records a case where the temperature at the moment of death was 112·5° Fahr., but the disease was rheumatic tetanus.

The thermometers I used were those recommended by Dr. Aitken, and made and certified as correct by Casella.

The treatment adopted in the case was the alkaline, with opium and belladonna to relieve pain, and fluid nourishment, in the shape of barley-water, milk, eggs, essence of beef, and Brand's beef-tea, was given unceasingly.

He was bedded in blankets, the limbs wrapped in cotton-wool, with linseed meal and hemlock poultices constantly applied over heart and affected joints.

I am, Sir, yours very faithfully,

ROBERT MACNAB, M.D., F.R.C.S. Ed.,
Surgeon, Suffolk General Hospital.

Bury St. Edmunds, July 19th, 1873.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 6, 1873.

THE Directors of the Dairy Reform Company have printed the whole of the correspondence between their manager, Mr. MACONOCHIE, and Dr. WHITMORE, Sir WM. JENNER, and Dr. MURCHISON in relation to the recent outbreak of typhoid fever in Marylebone. The pamphlet containing this correspondence is now before us; and the letters, taken in conjunction with those which have appeared in the daily papers, permit us to form an impartial judgment of the conduct of the Company.

There is no longer any question as to the origin of the epidemic. A letter from Mr. MACONOCHIE, written on behalf of the Directors of the Company, was published in *The Times* of August 26th; in which it was admitted freely and with deep regret, that "a large percentage of the recent cases of typhoid fever in Marylebone, as well as in some other districts," have been caused by milk supplied by the Company. The admission did not come a day too soon. The evidence that the milk was in fault which Dr. MURCHISON had collected in London was all but conclusive; and when Mr. NETTEN RADCLIFFE, Dr. WHITMORE, Dr. CORFIELD, and Mr. MORTON reported as the result of their inspection that typhoid fever was present upon one of the eight farms from which the Company draws its supply, and that one the very farm which supplied the district in question, all rational doubt was at an end. This report was received on August 12th, and the issue of milk from the tainted farm was stopped by telegraph on the evening of the same day; so that a fortnight elapsed between the discovery and stoppage of the source of the epidemic and the appearance in *The Times* of Mr. MACONOCHIE'S letter of apology.

But although we must take it as proved that the outbreak was mainly due to a portion of the milk supplied by the Company, it is evident that the Company cannot justly be blamed for its occurrence. The Dairy Reform Company has done valuable service in improving, both by practice and example, the milk-supply of the metropolis. We fully believe that it supplies, and has always supplied, good and unadulterated milk; and although the sanitary arrangements on its farms are now seen to be imperfect, it must be remembered that they are far better than those of most dairy farms, which indeed are often execrable, and that the necessity for vigilant medical supervision of dairies has only attracted public attention for the first time in consequence of the late disclosures. It is true that in the last few years a good many well-established instances of the propagation of typhoid and scarlatina through milk have been recorded. The first was, we believe, in 1858, when Dr. MICHAEL TAYLOR, of Penrith, published in the *Edinburgh Medical Journal* an account of an outbreak of typhoid in his town, which he traced clearly to the fact that some cows had been milked by a woman who was nursing cases of typhoid fever on the premises. Many subsequent cases might be quoted, and the number increases almost daily; but it is, nevertheless, true that the danger has not hitherto been brought home to the public mind, and it is hardly fair to expect cowkeepers to be familiar with the latest results of medical discovery. The fault, if there be one, rests with the members of our profession, who failed to impress upon the cowkeepers and the public the nature and extent of the risks they were running.

But although we are able to exonerate the directors of the Company entirely as far as the origin of the outbreak is concerned, we cannot but regret, for their own sakes as well as on public grounds, that they did not adopt a wiser and more liberal policy when suspicion was first cast upon their milk. A somewhat careful attention to dates is necessary for the full elucidation of this part of the question. On the 4th of August Dr. WHITMORE called at the London office, and later on the same day wrote a letter to the manager, stating in very guarded terms the nature of the suspicion which had arisen. The manager replied next day that he had had no complaints from the customers, and asked for further information. On the same day (the 5th) Dr. WHITMORE attended a meeting of the directors, answered a good many questions, and in return was disabused of an impression which he then held, that the milk was the produce of sewage-farms. This erroneous impression, so soon removed, appears to have inspired the directors with a belief, which they could not afterwards get rid of, that the whole theory was a delusion, especially as they conceived they had other strong grounds for rejecting it. On the 7th Dr. WHITMORE received an unimportant letter from the manager, which appears to have crossed another from Dr. WHITMORE, which last has recently appeared in *The Times*. In it he stated that other cases had come to his notice in which the milk was implicated, and called upon the Company to discontinue the sale of milk "until such time as the true cause of the outbreak can be ascertained." Next day the directors replied that they still utterly disbelieved the allegation, and declined to stop their sale unless the vestry would compensate them for their loss.

So far it would perhaps be somewhat harsh to blame the directors. The evidence brought before them as yet was very imperfect, and they had implicit faith in the excellence of their arrangements and the quality of their milk. They had written or telegraphed to all their farms, and had received assurances from every one that no disease existed there, and they thought they had ascertained that all their London *employés* were equally healthy. It is no great wonder that they considered the facts as mere coincidences and ascribed the outbreak to bad water or drainage. But on the morning of the 11th they received a letter from Sir WM. JENNER and Dr. MURCHISON, in which a strong opinion was expressed that the milk was in fault, and a certain number of facts were stated in support of it. Now comes the point at which we consider that the directors erred. Such men as JENNER and MURCHISON do not speak lightly or on insufficient grounds, especially in matters of such grave importance. It is true that the evidence which they embodied in their letter was somewhat incomplete, but it would unquestionably have been better to trust to their judgment in a question which

involved the health and perhaps the lives of so many. The directors replied by their manager the same day, urging a number of objections against the theory of the physicians, and reiterating the claim for compensation for the proposed stoppage of their trade. Next day (12th) the two physicians repeated their opinion in a few lines, and the directors replied to much the same effect as before, expressing the greatest confidence in the result of the inspection which was then in progress, and referring to the milk theory in terms almost of contempt. Before night, however, the source of the mischief was found, and the directors had stopped the supply. The next morning brought them a letter from Dr. MURCHISON, which afforded the full evidence they sought, and demolished nearly every point of their arguments.

It will be seen that we give the directors the fullest credit for honesty of purpose in this matter. They reasoned not unfairly from the evidence before them. But surely an interview with Dr. MURCHISON would at once have ended their doubts; and at any rate they might have remembered that their opinion of the cause of an outbreak of fever was hardly as valuable as that of two of the greatest authorities of which England can boast.

In spite of this error of a few days, we sincerely hope for the continued prosperity of the Company; and believe that if the active measures of precaution and supervision which the directors now intend to adopt are rigidly carried out, they will soon regain in full measure the public confidence.

We have purposely said nothing about the sewage-grass question which Mr. SHEE so ingeniously muddled up with the present inquiry. The question is of grave importance in itself, and we shall return to it before long; but as the Dairy Reform Company has never used sewage grass, even Mr. SHEE can scarcely "explain the occurrence of typhoid fever" by its agency.

MR. GEORGE DARWIN has contributed to the August number of the *Contemporary Review* an article on a subject which must have frequently pressed itself upon the attention of every thoughtful member of the medical profession, and it is one that has been discussed from different standpoints by more than one writer in the columns of THE LANCET. The author's object is to point out how modern scientific doctrines may be expected in the future to affect the personal liberty of individuals in the matter of marriage. The modern doctrines of evolution go to show that our mental as well as our bodily structure is the direct outcome of that of preceding generations; and that we, the existing generation, are "like the living fringe of the coral reef resting on an extinct basis afforded by our forefathers, and shall in our own turn form a basis for our descendants." If it be objected that the regulation of the daily increasing intricacies of our civilisation already affords too much to occupy our attention, and that the future must be allowed to develop itself without any attempts on our part to influence it, our author points to compulsory education, vaccination, and sanitary matters as evidences that we are now making attempts to control the future; and he adds that, as our scientific knowledge becomes more extensive and precise, we shall see the wisdom of extending the scope of this class of legislation. "Simultaneously," says Mr. GEORGE DARWIN, "with the diffusion of the belief in the truth of the doctrine of heredity will come the recognition that it is as much a duty to transmit to the rising generation vigorous minds and bodies as to hand down to them a firmly constituted society and government." It is in his own case alone that man ventures to neglect the knowledge he has acquired of the beneficial effects of careful breeding. Adverting to the facts and arguments advanced in Mr. GALTON's work on Hereditary Genius, the author discusses the two methods by which the race might be improved. The selection of the best individuals as the progenitors of the succeeding generation, as propounded in Mr. GALTON's scheme for the formation of a quasi-caste of those endowed above the average in mental and physical qualities, is open to some weighty objections. Among other things it is pointedly asked—What, for example, would be the consequences of the division of society into groups of *corps d'élite* and refuse? The second and less efficient method, by the prevention of breeding from the inferior members of the race, forms the groundwork of the author's article. He points out some of the ways in which our liberty of marriage might be affected by the adoption of this method, and starts by considering the greatest misfortune of mankind, and that which it appears we ought first to combat—namely, insanity. Fortifying his case with quotations from Dr. MAUDSLEY, Dr. LUCAS, Dr. STARK, M. BÉHIC, and other writers, as to the existing prevalence of insanity, and its possible increase in a disproportionate extent to an increasing sane population in the future, he goes on to indicate the transformations that diseases may undergo, according to the opinion of some of the most competent judges, from generation to generation, and the extent to which insanity and the allied maladies are inherited. It is then asked whether we are not bound to consider steps for the excision of this canker, and whether those races which delay making the endeavour must not fall behind in the struggle for life? For the good of the world Mr. GEORGE DARWIN hopes that the Teutonic races will take the lead in the attempt. The methods proposed by our author are in the direction of introducing some new restrictions to the liberty of marriage, which need not be, he considers, in the first instance, of an onerous nature. Seeing that insanity is transmissible to a greater extent after the development of the disease in the parent than whilst it is latent, he thinks that when a divorce is sued for it should not be refused merely on the ground of the insanity or idiocy of either party. Another step is that insanity or idiocy should of itself form a ground of divorce. Without pursuing our author's line of reasoning, we may say that the ultimate restrictions to liberty of marriage proposed by him, besides those already in force, would be—divorce on the appearance of certain diseases, the passing of a medical examination for this same class of diseases, and the production of an untainted pedigree. We think that the exhibition of proof that a married woman had been infected with certain diseases by her husband ought to be deemed sufficient ground for a divorce. Another and very analogous measure would be an enactment that felony in either party to a marriage should constitute a ground for suing for a divorce. It is, he thinks, monstrous that a

person should be bound for life against his will to one who, having committed a crime, is held apart from communication with society. The tendency to vice seems almost of the nature of a disease, and is without doubt hereditary. By such a measure an individual would be freed from a hateful union, and we should be aiding in the formation of a rising generation less tainted with vice than the last.

These are no doubt very advanced doctrines, but their design is in the main correct, and probably many persons will deem the principle advocated to be a sound one. While we think that to something like "this complexion we must come at last," we nevertheless cannot see our way to render its application practicable or tolerable to the masses. The subject is a wide and intricate one. To carry it out to its logical conclusion we should require the establishment of a "Medical History Sheet" for every individual and its production under certain circumstances, as well as the institution of a system of medical inspection. Meanwhile we may hope that a wider diffusion of the doctrines as to the hereditary nature of many of the diseases incident to humanity, and a more general recognition of their truth, may lead people to discern the extent to which their own capacity for happiness or misery and that of their children and their children's children depends upon their acting in conformity with the knowledge they possess, and the power that an existing generation has to mould, to a great extent, the destinies of that which is yet to come.

THE news received from Cape Coast Castle is by no means reassuring. The casualties from sickness have been very great, even for a climate proverbially so unhealthy as that of the Gold Coast. The Marines seem to have suffered terribly, for out of a force of a little over a hundred men landed there a few months ago all but twenty became ineffective from disease, and had to be invalided. The men were so broken down in health that it became necessary to send them at once to England. Eleven men died on board the *Himalaya* on the voyage home, and the survivors were landed in a more or less deplorable condition. The disasters that have overtaken this small force of Marines in the course of a few weeks' service on the Gold Coast afford, apparently, the worst augury for the success of any expedition of which a European force is to form part. Happily there are several reasons, however, for believing that such an appalling amount of sickness need not ensue in the force about to take the field against the Ashantees. It must not be forgotten that the Marines arrived at a very bad season; that they were wretchedly put up, owing to the absence of all proper accommodation; and that they were hemmed up in most unhealthy towns on the seaboard, without any of the excitement of a campaign, and probably exposed to the temptations present in all garrison towns abroad, and which nowhere exert so injurious an influence as on the Gold Coast. We see no reason for departing from what we have already said—viz., that if the expedition be confined to the proper season, and the European force be a small one, not more than is necessary to form a nucleus and backbone for a large native force,—and if everything be thoroughly arranged before the arrival of any troops from this country, in order that the expedition may be carried out with the utmost despatch, there is a good prospect of its being a successful undertaking. This success will in a very great measure turn upon the question of transport. There is, as we have said, no animal transport at Cape Coast; everything has to be conveyed on the heads of natives. If ever the saying that an army marches on its belly be a true one, it is emphatically so on this occasion; for the European force must be thoroughly well provisioned if it is to be fortified against disease. A contemporary has hinted that elephants might be usefully employed for transport; but this seems an impracticable suggestion. Not so, however, that of a railroad or tramway. There are very strong sanitary reasons why this proposal should be carried out; and we do not think the execution of this work would be attended with any great difficulty. This Ashantee expedition is an altogether peculiar one. The military dangers are utterly insignificant compared with those arising from a deadly climate, and we must be prepared to apply the achievements of modern science to the task. Even if the force marched on foot towards Coomassie, warlike stores, provisions, water, &c., would have to be conveyed into the interior; and the sick that could not march would require to be transferred to the port of embarkation. We are solely concerned with the medical aspects of the case; but the moral effect of a steam-engine on the Ashantees would be great. In the case of Abyssinia, the natives declared, on seeing a steam-engine for the first time, that the English were very clever—"they had put the devil into an iron box and made him work." On the whole we think a railway or tramway would prove as successful as it would be economical. And, instead of quartering our troops in future on the sea-coast, we should locate them on elevated ground in the interior, where they can live and not die. The European force should, we think, be mainly composed of men who had previously seen tropical service, and whose medical history showed that they were capable of withstanding the effects of a tropical climate. Great care will require to be exercised in regard to the water used for drinking. Fouled as it is with vegetable débris, it is likely to prove a fertile source of dysentery unless it be previously boiled; and, in the absence of that, it should be well filtered. We hope arrangements will be made for a plentiful supply of ice for the ships carrying the sick home; and that every practicable facility will be afforded for the rapid removal of invalid officers and soldiers to this country. The so-called seasoning-fever is hint number one, and liable to repetition; and if the attacks do not yield to quinine there is safety only in flight.

THE Third Report of the Royal Commission on Scientific Instruction and the Advancement of Science has just appeared in the form of a thin Blue-book. The gentlemen acting upon this Committee are the Duke of DEVONSHIRE, the Marquis of LANSDOWNE, Sir JOHN LUBBOCK, Sir JAMES KAY-SHUTTLEWORTH, Mr. SAMUELSON, Dr. SHARPEY, Professor HUXLEY, Professor STOKES, and Professor STEPHEN SMITH—names that carry great weight. Their present Report deals with various points in regard to the Universities of Oxford and Cambridge, but we shall here only notice that portion of it which bears on the subject of the

preliminary training and curriculum to be pursued by students of science. They commence with the consideration of the advisability of instituting a university matriculation examination in place of the entrance examinations now required at the different colleges, and which it appears vary considerably in stringency. The results of their inquiries, however, show that, valuable as such a matriculation examination as that of the University of London is, not only as a test of knowledge, but as systematising and stimulating education in the better class of schools throughout the country, a "leaving examination," or examination on leaving school, analogous to the "Abiturienten Examen" in Germany would be more useful, since it would have to be undergone by all boys, whether they subsequently present themselves at the universities or not; and would, at the same time, be a good criterion and exercise a strong influence upon the teaching of the First Grade schools; whilst it might easily be made to harmonise with the system of university instruction, and might thus be made equally suitable to those students who intend to pursue a university course. In this "leaving examination," they recommend that those parts of science which are suitable to form part of the education of boys should be fully recognised, so that classical and mathematical subjects should not be rendered exclusively obligatory. They recommend, however, that no student who for any reason is unable to offer himself for a "leaving examination," or who fails in passing, should suffer any disadvantage at the university beyond that of incurring the obligation to pass an equivalent examination at some later period in his course. They next proceed to consider what arrangements should be made in regard to the scientific curriculum; and here there is a striking difference of opinion between the witnesses examined before the Commission. Some, as Mr. PATTISON, insist that, in the case of a lad entering as a scientific student, the university should take no cognisance of his literary attainments, nor trouble itself to know whether he understands Latin or Greek; while, on the other hand, Professor ADAMS is of opinion that literary culture is extremely important, as without it the mind is apt to become narrowed, especially if it be exclusively devoted to material objects; and in this view the Commission are evidently disposed to coincide, though they decline to give any decided opinion one way or the other.

According to the statute now coming into force at Oxford, every scientific student who wishes to obtain the degree of Bachelor of Arts has to pass three examinations in non-scientific subjects: the first being Responsions, at the end of his first term; the second Moderations, at the end of his fourth term; the third an examination in Divinity (or in substituted matter), for which he cannot offer himself before his twelfth term. If, however, he has obtained an Honour in any one of the Honour schools at the Final Examination, he acquires the right to offer himself for examination in any other Honour school as late as his twentieth term. Thus a student in Natural Science who should obtain a fourth class in the school of Mathematics, would have nearly four years after passing Moderations, which he may, if he please, devote almost without interruption to his scientific work. This the Commissioners think is tolerably satisfactory; but they point out that it involves from five to seven years' attendance upon, or residence in, the university, which is inconvenient for the majority of students; whilst it might be materially shortened by allowing the student of science to pass his Moderations at once, or, better still, make the "leaving examination" sufficiently stringent to enable him at once to enter upon his scientific course. The latter plan, we think, would be decidedly preferable if adopted with the reservation mentioned above—namely, that failure in passing it should not cause the student to suffer any permanent disadvantage beyond that of having to pass it at a later period.

Medical Annotations.

"Ne quid nimis."

ARMY SURGERY AT THE VIENNA EXHIBITION.

RICH in nearly every product of human industry, the Vienna Exhibition contains no objects more attractive than the collection of field hospital apparatus under the superintendence of Dr. Wittelshöfer. That accomplished physician, well known as the editor of one of the leading medical journals of the Kaiser-city, has brought together, and arranged in admirable system, every article and implement appertaining to the tendance and treatment of the sick and wounded in war. The collection occupies an entire pavilion marked with the red cross, and reflects such a picture of the horrors of battle that the military departments, not only of Austria, but of foreign governments, regarded Dr. Wittelshöfer's undertaking with no little disfavour. In the centre of the pavilion are exhibited, neatly and legibly labeled, all the surgical instruments and appliances employed during and after operations. There is, for one thing, a large assortment of bandages, with models illustrative of their application. There is also a series of mechanical limbs susceptible, through springs, of almost life-like motion. Add to this the *matériel* of field ambulances, packed in chests with wonderful economy of space, and specimen medicaments, also disposed in the compactest of receptacles, and the visitor will be prepared for the next collection of objects—cases of fractured human bones, illustrating the smashing effect of the blunt needle-gun bullet, or the splitting, rending lesion left by the more pointed and more swiftly projected chassepôt shot. Close at hand may be seen a number of photographs showing face and head wounds in all their ghastliness as they came in for treatment, and also the triumph of surgery in their after-appearance. One of the wings contains stretchers, litters, operating tables and beds, field kitchens, spring-chairs, couches, surgeries and dispensaries on wheels—every possible contrivance or device, in short, for bringing help to the wounded in the quickest and most effective way. In another wing may be seen hospital trains, from the rudimentary Hamburg railway ambulance, unventilated and shorn of every comfort, to the splendidly-appointed "Service des blessés" from Paris—a locomotive infirmary rich in all imaginable furniture for the sick and wounded, as well as for its medical, surgical, and culinary staff. This French train, self-contained in all respects, economises space in the most wonderful way, and avoids vibration, while keeping up a constant supply of fresh air. Its kitchen carries in its four corners fresh drinking- and cooking-water for the whole train, the metal reservoirs containing it being so shaped as to usurp no appreciable room, while most easy of access. Its restaurant is furnished

with an officers' table, as well as one for the men, provided with excellent glass, cutlery, and china. The cook and waiter have beds in the kitchen, while the wards are entirely devoted to the patients, and the surgical staff occupies a separate car, containing the office, dispensary, hospital stores, spare stretchers, instrument cases, extra bedding, and so forth. Each surgeon has a room to himself, more comfortable than any state cabin on board a steam-packet, and the berths for the wounded are perfect as to ventilation and general appointment. The French ambulance, indeed, defies competition, as may be seen by a moment's comparison with the Prussian railway ambulance hard by, which, solid and practical as it is, lacks most of the comforts and all the luxuries of its Parisian rival. Field ambulances of various patterns are also sent by England, Austria, Germany, Italy, and Spain—one by Baron Mundy so meeting the approval of the Imperial War-office as to be presently adopted for the Austro-Hungarian army. No surgeon or physician, whether in civil or military practice, should lose a chance of seeing Dr. Wittelshöfer's wonderful collection; while, to say nothing of the other attractions of the exhibition, there is an interest attaching to the local medical school which cannot fail to render profitable, as well as pleasurable, a few weeks' sojourn in the "Paris of Eastern Europe."

CONTAGIOUS DISEASES ACTS.

COLONEL HENDERSON'S Report on the police force of the metropolis for the past year is just out. Among the topics of which it treats, the most interesting to the profession is that of the Contagious Diseases Acts. The women subject to the operation of these have attended during the year with a regularity that has rendered proceedings before a magistrate necessary in a few instances only. In 6356 cases they signed the voluntary submission-form; in only twenty was it necessary to enforce signature by a magistrate's order. The cases in which information had to be lodged before a magistrate for non-submission have been reduced by two-thirds, those of non-attendance after signing submission have been reduced by one-half. Common women continue to come in from the unprotected districts; notwithstanding this, their number on the 31st December last had fallen from 2411 to 2290. The reduction in the total number of prostitutes is more clearly demonstrated, however, by the reduction of the juvenile prostitutes. On the 31st December last there were 9 prostitutes in the different districts under seventeen, whereas in 1866 there were 377 under that age. On the same day those under eighteen were 67, against 595 in 1866. Brothels have been reduced by 86 during the year, many of those suppressed being of the most infamous kind; but 81 public-houses and 31 beer-shops used as brothels still ply their trade in spite of Acts rendering the keeper liable to a severe penalty for permitting his house to be used as a brothel. For the first time during the year 2054 prostitutes have been registered, including those re-registered from the unprotected districts. Of this number 742, or 36·71 per cent. of those examined (2021), were found on their first examination to be diseased, while 201, or 9·19 per cent. of those examined (2187) out of the 2411 women still on the register on December 31st, 1871, were found diseased. The unprotected districts contribute much venereal disease; the women's habits are dirty and their demeanour aggressive; so that (in the meantime) the working of the Acts is materially interfered with. Between the ages of twelve and seventeen, 71 girls, on being spoken to by the police, gave up their immoral life, while many others, seen in bad company and in improper places, have left off their evil courses on being informed that they were observed, before it is certain that they had committed themselves. At Dartmouth not one woman had been brought on the register during 1872. The prostitutes have thus been reduced from 16 in 1870 to 3 at the present time. The men of the Royal Navy stationed there were exempt from venereal disease, while only one woman had been sent to hospital for treatment, whereas on March 12th, 1870, six out of eight common women were found to be diseased. The Contagious Diseases enactment has only to be let alone to justify its authors. *Vires acquirit eundo* may be said of it. *Virus acquirit eundo* of its opposite.

CONSUMPTION STATISTICS.

THE interest so widely excited by the remarkable discussion which took place last spring at the Pathological Society on tubercle, has no doubt awakened in many quarters a spirit of investigation that will eagerly welcome all contributions of information relating to the incidence and fatality of consumption generally, as well as under particular conditions.

We cannot know too much about a malady which causes every year in this country more than one-tenth of the aggregate mortality of the whole population. Unfortunately the collection of statistics, which is a first essential to a right appreciation of pathological phenomena, involves an amount of laborious and troublesome collation, mostly quite inconsistent with the course of active professional life. Many of our readers will therefore, no doubt, be glad to know that what strikes us as being a valuable compendium of facts in relation to consumption has just appeared in Nos. 9 and 10 of the *Insurance Cyclopædia*, of which Mr. Cornelius Walford, a well-known actuary and statist, is the author. Within the compass of some thirty pages is given an historical sketch of the most noteworthy home and foreign contributions to the history of consumption from the year 1802 down to the present time; the views of the several authors are given in the shape of extracts condensed to the utmost pitch of brevity; and the collection of statistics is probably unique in point of selection and comprehensiveness. The results of the experience of insurance offices are interesting, especially upon the question of heredity. Thus the Standard Assurance Company some years ago decided to admit, at the ordinary rate of premium, insurants who had lost from their immediate family two members from consumption, provided all personal points were favourable—a certain moderate progress in age being one of such favourable points. In 1871 Sir Robert Christison reported that this principle had then been acted upon for twelve or fourteen years, and that experience had shown it to be safe, for out of well-nigh 130 such cases admitted, only one had come into the obituary list. Mr. Walford's references to authors are so carefully made that the editions consulted are in all cases quoted, and altogether much otherwise perplexing research is saved by his labours.

HOW TO AVOID THE DANGERS OF THE GOLD COAST.

WHILE the disastrous results that have attended the expedition of a small force of Royal Marines to the Gold Coast from this country less than three months ago are still fresh in the public mind, we are most anxious that the opportunity should not be lost of expressing our sense of the very great importance, from a medical point of view, of facilitating the transport of troops and stores from the abominable climate of the seaboard to the more elevated and healthy regions of the interior of the West Coast of Africa. This can only be done by the construction of a railway or tramway from Cape Coast for at least thirty or forty miles inwards. The Americans, in their late war,

laid down lines of rails with the utmost expedition for military purposes, and we might surely do the same on the present occasion. Everything depends upon the rapidity with which this expedition is carried out. The European soldiers should not land a moment before they are wanted, and be at once run up to their work at Coomassie. Every day spent in the vicinity of Cape Coast Castle will be attended with risk to the health of the men engaged. We are convinced, moreover, that a roughly-laid line of rail would prove least expensive in the end. Native labour is cheap and abundant, and one of our large railway contracting firms could soon be found to carry out the undertaking on the new narrow gauge system. We would earnestly commend this suggestion to the consideration of Colonial and War Office authorities.

A PROVIDENT DISPENSARY IN COURT.

MARTIN HUDSON IRVING at the recent Middlesex Sessions was tried on a charge of embezzling the sum of 3*s.*, the property of John Alexander Miller and others, prosecutors in the case. The jury, after a summing up of the evidence by Mr. Serjeant Cox, returned a verdict of "Not Guilty," but Mr. Besley, for the prosecution, after objecting to the tone of Mr. Serjeant Cox's remarks, intimated his intention of proceeding with other indictments before another jury. The prosecutors, according to the *Globe*, upon whose report we are writing, are surgeons, who "having opened (*sic*) a dispensary in the Essex-road, Islington, started (*sic*) another at 37, Charlton-place, Clarendon-square, under the name of the Somers Town Provident Dispensary." These gentlemen engaged Irving as an assistant, to live in the house with his wife, at a salary of £1 a week. He was to receive moneys and hand them over to his employers. Whether he handed over the moneys received or not will be decided definitely at the next Middlesex Sessions. But our interest is rather in the incidental information which emerges in the report of this trial relative to the way in which "provident dispensaries" are being "opened" and carried on in the metropolis. We shall be most glad to be corrected if we fall into any error. But we shall use plainness, because provident dispensaries are on their trial now, and, if they are not to suffer in the estimation of the public and the profession, more care will have to be taken than seems to have been shown in this case.

First, it was stated at the trial that a plan had lately arisen of giving medical assistance through provident dispensaries to persons joining, paying 1*s.* a week for advice at the "offices," and 2*s.* 6*d.* a week for treatment at their own homes. On this point we have only to say that this is neither to encourage providence nor a just estimate of the value and dignity of medical services.

Next it appears from this trial that two practitioners "open" two dispensaries, remote from each other, and remote, as far as we can learn, from their own residences—very much as a tradesman living in a better neighbourhood might open a shop in a populous one. The system seems not unprofitable, whether it be professional or not, for Dr. Miller, one of the prosecutors, said that his profits for one quarter, at one of the dispensaries, was at the rate of £300 a year. It would be interesting to find out how gentlemen living in one district of London conduct dispensaries in other districts. And some light on this point comes out of the painful trial at the Middlesex Sessions. Mr. Martin Hudson Irving, the collector of the moneys, had other duties besides this. He dispensed the medicines. Though not, we gather, a qualified practitioner, he attended the midwifery, performed vaccinations, and, in the absence of the "partners," who spent perhaps half an hour each day at the dispensary, saw what Mr. Serjeant Cox called, much to Mr. Besley's annoyance, "the unfortunate patients." For attending the midwifery cases he got half the fees. Here, then, is the explanation of these gentlemen opening dispensaries in various parts of London, getting the work done by unqualified assistants, whom they protect in an extensive practice by their own qualifications. We submit that this is unjust both to the public and to the practitioners of the various neighbourhoods where these dispensaries are situated. Lastly, we have to notice another feature of the system—the issuing of handbills. Dr. Rogers said, in reference to bills which had been issued from the establishment, that "it was not at all improper for medical men to advertise under the dispensary system." To what authority in medical ethics will Dr. Rogers refer for confirmation of this doctrine? A medical moralist would have difficulty in regarding the relations of the three persons in this trial as other than those of a firm with an unqualified assistant, or in saying why, if advertising and handbills be right on their part, they would be wrong in any private practitioner practising amongst the same class of people. If care be not taken, the provident dispensary system, while aiming to elevate the feelings of the poor, will most injuriously affect the feeling of the profession. We advise Dr. Rogers to think twice before he does in connexion with these dispensaries what he would hesitate to do as a private practitioner.

HUMAN LONGEVITY.

THE Registrar-General, in his lately issued Annual Report, observes that on an average 21 men and 57 women go to their graves every year with the renown of centenarianism attaching to their memories. In 1871 the deaths of 69 persons were registered at the following ages: 27 at 100 years, 17 at 101, 10 at 102, 5 at 103, 3 at 104, 2 at 105, 2 at 106, 1 at 107, 1 at 108, and 1 at 109. The locality in which each of these deaths occurred is given, so that anybody who is sufficiently interested in the subject has an opportunity afforded him of investigating these cases of asserted exceptional prolongation of life. Under the scrutiny of Mr. W. J. Thoms it may be taken for granted that not a few of these reputed centenarians will be shorn of their honours, for out of 30 cases, the particulars of whose investigation are given in his recently published volume on "Human Longevity," Mr. Thoms found only 4 which stood the test, 4 more being doubtful, while the remaining 22 were either disproved absolutely or shown to be unsupported by proof. It is evident that conclusions as to the limit of life duration cannot safely be based on the death returns, for the Registrar-General reminds us that the registrars have no authority to inquire into the truth or otherwise of the statements as to age made to them by the legal informants of deaths. The case of Jacob William Luning, who died at Morden College, Blackheath, in 1870 at the age of 103 years, was clearly established by documentary evidence submitted to the Registrar-General, and the 4 cases which Mr. Thoms's inquiries sustained show undoubtedly that the limit of life is not absolute at 100 years; but that the instances in which it is passed are so exceedingly rare as to make that age practically the limit the researches of Mr. Thoms fully warrant us in believing. And the Registrar-General gives us a bit of statistical information which also tends to show that there are more imaginary than real centenarians to be met with. Thus at the Census it is found that about 180 persons on an average of successive enumerations would return their ages at 100 years or more; and the average annual deaths returned at the same age being 78, the resultant death-rate would be about 43 per cent. But by the English Life Table, which is the most scientifically complete measure extant of the probabilities of life, the standard of

mortality at the age of 100 and upwards is 58 per cent.; there is, therefore, a manifest incompatibility between the reported numbers of centenarians alive and the deaths among the same fraternity. Mr. Thoms found that the experience of Life Assurance societies in this country supplies only one instance of an assured centenarian, and that was the Jacob Luning above referred to.

IS UREA FORMED IN THE BLOOD OR IN THE TISSUES?

AT the last meeting of the Société de Biologie M. Rabuteau read a paper on the relation which exists between the quantity and composition of the food on the one hand and the amount of urea excreted on the other. M. Rabuteau maintains with Lehmann, Frerichs, Bidder and Schmidt, and others, that urea proceeds directly from the oxidation of the albuminoid matters introduced into the blood, and that the albumen of the tissues does not contribute, or contributes in a very small degree, to its formation. In other words, reproducing the old comparison so often made between the organism and a machine which develops force not at the expense of its constituent parts, but at the expense of the fuel, he maintains that in an absolute sense the tissues do not undergo wear and tear, and that the albuminoid matters burnt and transformed into urea have not at any time made a part of our tissues. As M. Lepine, however, remarks (*Gazette Médicale de Paris*, No. 31), there is no correlation between these two propositions; for although the kind of alimentation exerts a powerful influence on the excretions, it by no means follows that the alimentary substances are burnt directly in the blood or lymph without having temporarily formed part of the tissues, for it is very intelligible that a superabundant supply of food may render the nutrition of the tissues more active, and aid the process of their renewal. M. Rabuteau's proposition is contested by Hoppe-Seyler, who thinks the oxidation of proteinous substances in the blood is quite hypothetical, and, in point of fact, is a view that cannot be sustained. The blood, he says, has, *per se*, no oxidising property; the tissues alone have this power. No doubt in blood withdrawn from a vein reduced substances are found to be present after a short interval, but this is only the consequence of incipient putrefaction. Oxidation only occurs external to the bloodvessels and in the tissues themselves, and the material of which the cells forming the tissues is composed, far from being fixed and immutable, is constantly undergoing changes and renovation. Notwithstanding this opinion entertained by an excellent chemist, it must be remembered that Voit to a certain extent agrees with M. Rabuteau, and holds that a certain portion of the urea proceeds from what he terms the "albumen of the circulation," which has never formed a part of the tissues.

DEATH FROM CHLOROFORM AT BRIGHTON.

AN inquest was held at Brighton on the 23rd ult., on the body of a lady who had died the previous day during the extraction of a tooth under chloroform.

The dentist in whose house the unfortunate accident occurred deposed that the deceased lady had written to make an appointment for the extraction of a tooth "under chloroform." The operation was arranged for the 22nd, chloroform being administered by Mr. N. P. Blaker. The operation was performed at half-past seven in the evening, and, in answer to the question put by the chloroformist, the deceased stated that she had eaten little or nothing all day, but immediately before the operation a glass of sherry was administered. From Mr. Blaker's evidence we gather that the deceased was seated in an upright position in a chair, and chloroform was administered by means of a conical sponge. Previous to the operation all her clothes were loosened, and the heart, having been carefully examined by the stethoscope, was pronounced healthy. The deceased requested that nothing might be done "until she was fully under," and once or twice interrupted the administration with a similar caution. There was not much struggling, but the jaw being tightly closed, it was necessary to depress it forcibly before the forceps could be applied. Coincidently with the extraction of the tooth the pulse stopped, and in spite of all the usual measures—artificial respiration, the dashing of cold water, and faradism—which were continued with great assiduity, it was found impossible to restore animation.

The usual medical attendant of the deceased lady attended at the inquest, and stated that she was forty-two years old, that she had required no medical attendance for the last twelve months, and that, although her stoutness gave him some anxiety, he never anticipated any disease of the heart. He had several times given her chloroform, and each time a larger dose than that which had proved fatal, but had not administered chloroform to her during the past year.

Mr. Blaker further deposed that he had made a post-mortem examination, the chief feature of which was the extreme condition of fatty degeneration of the heart. Mr. Blaker informs us that, "the muscular structure was of a tawny colour, easily broken down under pressure. Examined under the microscope, a thin layer, about a line in thickness, of comparatively healthy muscular structure was found immediately beneath the visceral pericardium; the remainder of the muscular structure was in the most advanced stage of fatty degeneration."

It seems that we have here a case of death from chloroform which may truly be looked upon as an accident pure and simple. Every precaution had been taken, and no blame can possibly attach to anyone concerned. It is one of those cases where death seems to have followed rigidity of muscle, and it is questionable whether asphyxia may not have helped, as it were, the fatal syncope. The upright position and the lack of food prior to the operation may each, too, have assisted to bring about the untoward result.

MEDICAL RELIEF AT GUILDFORD.

Two medical officers, or deputy medical officers, at Guildford have complained to the Board of Guardians that their orders for nourishment have been disregarded by the relieving officer, who has been acquitted and even praised in a resolution of the Board. It is undoubtedly true that the views of the medical officer as to the need of nourishment are not binding on the relieving officer. His statement is a mere certificate of his opinion, and we know how lightly the opinions of medical men are held by some Poor-law officials who too well represent guardians. One of the cases in which relief here was disallowed was that of a child of a sweep. The relieving officer, calling, found the child at play in the yard, and that the two pounds of beef ordered by the doctor had been used in one day. The fact of the child being at play was some proof that the meat had been used and found its way to the muscles of the little patient. The mother's explanation of the consumption of the beef was ample, if not satisfactory. She had four children; three of them had whooping-cough and another was in consumption, and, though six years old, only weighed twenty-three pounds. Her husband's earnings at sweeping were very precarious, and he had only earned 8s. last week at harvesting, as he was not accustomed to the work. We must leave the guardians and the relieving officer to the entire blame due to withholding nourishment from such a

family. No medical man who did so should have our approval. Dr. Burgess seems to have been earnest enough, not to say rash enough, to say that if any of these cases terminated fatally he would insist on a coroner's inquiry. In reference to this Mr. Baker said he considered the threat to hold a coroner's inquiry a direct threat to the Board. The Chairman said, "Oh, that is nothing. You should see the threat of 3000 medical men to Mr. Stansfeld—in fact, it is an autumn manœuvre." Thus goes on the old strife in Poor-law administration between a judicious and humane liberality on the one hand and authority and so-called economy on the other. Whatever Dr. Burgess's success in the matter of a coroner's inquest, he will have the sympathy and support of the public in ordering nourishment to a starving and emaciated child, even if it has the happy effect of enabling it to get into the yard and play with other children.

HOW SHALL WE CLOTHE THEM?

THIS is a question that has been often asked of late years in regard to our soldiers, but it does not seem that it has yet been practically answered. Our correspondent at Cannock Chase remarked that, owing to the great heat, the regiments marching to the camping ground were made to feel and show the deficiencies of the present military clothing. The two points to which he specially directed attention were the shako and the tunic. He points to some of the results of the late war as indicating very clearly how much depends upon the power of one body of men to overmarch another; and yet, in a race with so much at stake, he says English soldiers are placed at a disadvantage. Mr. A. B. R. Myers, of the Coldstream Guards, who speaks with authority on a subject about which he is exceptionally well-informed, states that the late Captain Ram, of the Scots Fusilier Guards, embodied the alteration proposed by our own correspondent in a sample tunic made after the Austrian pattern. This, however, did not meet with approval; but Mr. Myers was more fortunate in the tunic designed by him in 1869, for this appears to have obviated the defect about the collar of the tunic, and to have met with the approval of H.R.H. the Commander-in-Chief. It is not only in accordance with physiology, but with common sense and common practice, for a man to free his throat of every restraint before engaging in labour of any kind; and the day will come, and that soon we hope, when every soldier, *including the Guards*, will be furnished with clothing sufficiently loose to admit of the full and free play of his muscles without constricting his neck. The alterations suggested by Mr. Myers are of so simple and inexpensive a character that there ought surely to be no great difficulty in getting the matter tested practically. The manœuvres at Cannock Chase afforded an opportunity, moreover, for testing the relative value and effects of the old knapsack and the new valise. The men belonging to regiments equipped with the latter expressed themselves as well pleased with the change, and as feeling less distressed after marching than when equipped with the former.

TRAUMATIC DESTRUCTION OF ONE CEREBRAL HEMISPHERE WITHOUT FUNCTIONAL DISTURBANCE.

THE eminent Italian surgeon, Porta, brought before the Institute of Lombardy, on the 19th of December, 1872, the case of a man who, in consequence of a severe injury, lost the whole of the right hemisphere of the brain. The unconsciousness lasted a few hours, but when the patient recovered his senses, he recollected being picked up and taken upon a cart to the hospital. He stayed two months and a half in the institution, the skull exfoliated, and the wound became fungous, when he claimed his discharge, though affected with paralysis on the left side, which had occurred immediately after the infliction of the injury. He subsequently applied at the clinical wards of Pavia, where Dr. Porta had an opportunity of studying the case. Eighteen months had elapsed since the accident, and twelve months since the closure of the wound. The author minutely describes the integrity of the intellectual functions, the amount of paralysis in the upper and lower limbs, and concludes by dwelling on the three following points:—(1) That the encephalon is a double organ composed of two equal parts, and that, one being destroyed, the other survives without functional disturbance. (2) That in the different spheres of the cerebral, medullary, and nervous systems, special and diverse functions are perfectly isolated and localised, the disturbance of the functions following localised injuries. (3) That, in the present case, electricity diminished the paralysis of the arm, and that the improvement would have been more marked had the treatment been sufficiently prolonged.

The case is confirmatory of the well-known experiments on the lower animals, from whom a whole hemisphere was removed.

THE CHOLERA.

WE have not received any report of the occurrence of a case of cholera in this country up to the time of going to press.

There is no doubt that cholera has obtained a firm footing at Havre, cases having occurred in nearly every quarter of the town and in the soldiers' barracks. A special meeting of the medical men has been convened to consider what steps should be taken to arrest the progress of the disease. The English visitors are all leaving Trouville, the popular watering-place in the neighbourhood of the infected town. Cholera has also broken out at Rouen, where the number of cases amounts to 20 a day. Our Paris correspondent authoritatively informs us that no cases have yet occurred in that city. In Berlin, up to the 27th ult., 203 cases had occurred, 137 of them proving fatal. In Vienna 239 deaths were recorded during the week ending August 23rd. The disease shows no sign of abating in Munich, where in the ten days, August 16th to 25th, the cases amounted to 249, of which 118 were fatal. In the two days, August 27th and 28th, there were 24 new cases and 15 deaths.

It is desirable that the port medical officers at London and Southampton should keep a strict watch on vessels arriving from Havre and the Baltic ports. The communication between Havre and Southampton is so very direct and constant that a systematic inspection of all vessels arriving at the latter from the former port will, we presume, be instituted.

THE NON-DISCLOSURE OF PROPAGABLE DISEASES.

IT is shocking to think how some people will harbour the most infectious diseases in their house, and all the while conduct a business that involves the infection of articles belonging to other families. This is the secret of much of the untraced epidemic disease. And the sooner such secrecy is clearly made a legal offence the better.

Dr. T. Orme Dudfield, the Medical Officer of Health for Kensington, in an attempt he made to track the history of the cases of small-pox in his district in the recent epidemic, came to the case of a laundress, who was in a large way of business and occupied a six-roomed house. Of the entire household of seven persons, husband, wife, and five children, the wife only escaped. The children had it lightly, so lightly that some of them did not leave their work. Two of them were ironers in the establishment. The

laundress scrupulously concealed what was going on. She kept it quiet for fear it might injure her business. The sooner it is made compulsory to report cases of infectious diseases to the medical officer of health the better. This need not involve publicity, but it would be a protection to the public, which cases like the above show to be urgently necessary. Dr. Dudfield's report discloses another motive of the poor for suppressing the fact of the existence of infectious disease in their houses—viz., the fear of being ordered by the Poor-law officials to a Fever or Small-pox Hospital. Such reports show the imperfectness of all our sanitary laws, and the necessity for a more perfect protection of the public. The *employés* connected with the chamber, fourteen in all, entirely escaped the disease, though only one was revaccinated.

RESEARCHES UPON THE INSENSIBLE LOSS OF BODY WEIGHT IN TRAUMATIC FEVER.

PROF. BERGMANN, of Dorpat, has lately undertaken a series of researches on this subject in four patients. Control experiments to obtain an average of the insensible loss in the healthy state were undertaken for eleven days, but found to be of little use, since not only did great variations occur in the normal condition, but patients admitted to hospital were placed under quite different conditions in regard to food and temperature from those to which they were accustomed, and no conclusions could therefore be drawn. In experimenting on the patients before and after operation, he found the hourly loss, per kilogramme of body-weight, by insensible transpiration, to be 0·82 grammes. After the operation, when traumatic fever was well marked, the loss varied from 0·82 to 0·84 grammes per kilogramme per hour, and in reconvalescence it was 0·7. In a second case the numbers were 1·14 gramme during health, 0·94 after the operation but whilst still free from fever, 0·59 on the day the fever was well marked, 0·99 on the day after, and 1·16 during convalescence. In a third case the loss before the operation was 0·75 in high fever, after the operation 1·, after diarrhœa had set in 0·6. It thus appears there is considerable variation. The quantity of urine was much diminished during the febrile state.

BURNING VERSUS DISINFECTION.

THE triumph of common sense in sanitary matters in the various boards of the country, if slow, seems pretty sure. The "member opposed to vaccination" and disinfection, and every other sensible precaution against the spread of disease, of course still turns up; but he is outvoted, and his fanaticism comes out only the clearer for being set against the general wisdom of his colleagues. We cannot for a long time expect "the member opposed to vaccination" to disappear, even if it could be wished; all that we can hope for is that he should be in a minority. These reflections are occasioned by the report of a discussion in the Dalton Local Board, having reference to "small-pox at Askam." Mr. Cleasby said that to one woman who came from Clator Moor to Askam, having the disease, all the twelve or thirteen cases could be traced. The great question was whether a bed saturated with small-pox matter should be burnt or disinfection should be attempted. Mr. Askew distinguished himself as "the member opposed to unnecessary expense and to vaccination," especially by saying that so long as vaccination is carried on small-pox will never be stamped out, and suggesting that the consideration of the destruction of the bed should be postponed to the next meeting. The chairman came down with a heavy argument in favour of Dr. McNab's advice to burn the bed. He said he had known a young woman, from cleaning a bed upon which a young man had died of small-pox, meet her death and leave seven orphans, some of whom were now in the Ulverstone Union, one or two being cripples. The pseudo-economists continued feebly to try to avert the outlay of 30*s.* or 40*s.* and save this filthy bed, the disinfection of which would probably have thrown half a dozen more cases on their hands. But in the division the true economists prevailed by nine to four—still, we fear, too flattering a numerical illustration of the proportion of wise and foolish members of sanitary boards.

HINTS FOR THOSE GOING TO ASHANTEE.

WE would advise officers and others to provide themselves with as few things as practicable by way of outfit for the field; to wear flannel or serge, have good boots and a light, easy head-dress; to avoid spirits as a rule, to drink condensed or boiled water whenever practicable, and to use filtered water when not—a pocket filter being provided for that purpose; to take a certain quantity of quinine as a daily article of diet, and not as a medicine, and always to begin the day with a good breakfast, and end it by taking care to guard against malaria by some covering above and a waterproof sheet below, lighting a fire whenever practicable. It might be worth while for officers to provide themselves with a small respirator, to be worn when exposed to the night air. These are now to be procured of very small size, and capable of being worn inside the lips, so as to be invisible. And we would advise all who accompany the expedition to get revaccinated, and those who smoke to carry a supply of tobacco for their pipes.

A GRATEFUL PATIENT.

IT is rumoured that a rare piece of good fortune has befallen a general practitioner in the north of London at the hands of a grateful patient. The patient, lately deceased, is said to have left his medical man the principal part of his property, to the value of £20,000. We have reason to believe the rumour not unfounded. We may be allowed to express our congratulations on this event, and to say that such a disposition of property in certain circumstances may be highly creditable to both the legator and legatee. The profession, which is honoured by such a compliment to one of its members, has never been suspected of undue influence. Though having to do with men, and women too, in their weakest and most emotional moods, it has kept to its simple duty of removing their diseases and relieving their pains, and such windfalls as that which we allude to to-day have come only often enough to excite the pleasure and satisfaction of the public, which, in its collective capacity, always takes a generous view of the desert of medical men.

ACTION OF ALCOHOL ON THE TEMPERATURE OF THE BODY.

MR. DAUB has recently been investigating the effects of non-intoxicating doses of alcohol on the temperature of healthy men, under the supervision of Professor Binz. He points out that determinations of temperature by means of the thermometer in the axilla are not very satisfactory, since in the course of an hour or two spontaneous variations of several tenths of a degree may frequently be observed. Such a method of ascertaining the temperature may be useful enough for all practical purposes for the physician, but the accuracy is not sufficiently great for scientific purposes. For these the temperature of the rectum should always be employed. The best time for taking the temperature is from 3 to 7 o'clock A.M. The quantity of alcohol

given varied from 30 to 110 c.c. of a 98 per cent. alcohol, with about double the quantity of water and a little sugar, at about 60° F. In almost all instances a well-marked lowering influence was observed, and in no case was the temperature observed to be raised except in the case of a boy with osteitis about the knee-joint.

APOPLEXY AND DRUNKENNESS.

ANOTHER error of diagnosis by the police is reported from Manchester. A man smitten with paralysis was taken to the police-station at half-past six o'clock on Sunday, the 24th of August, and being thought to be only drunk no medical man was sent for till half-past three. There was this amount of excuse for the police—that the man was in a state of partial or complete intoxication when overtaken by paralysis, according to all the witnesses in the case. At the same time, to allow a man to remain nine hours in a police-cell unattended by a medical man in a state of nearly complete insensibility, even if he smelt of drink, was an act of great indiscretion, and merited the censure of the jury, which was expressed.

SANITARY WORK AFLOAT.

FROM particulars that have been received it appears that a vessel called the *Robert*, belonging to one of the North German ports, sailed from Oberndorf, a small village on the Weser, for West Hartlepool. The mate was taken ill suddenly about five days before the vessel reached her destination, and died with symptoms of cholera forty-eight hours after the commencement of the attack. These circumstances were reported to Dr. Biggart, the port medical officer, who caused the vessel to be fumigated and her belongings disinfected before entering the harbour.

A UNIVERSAL PHARMACOPŒIA.

AT the Medical Congress which will meet this year at Vienna, a proposal of great importance will be made by MM. De Cristoforis Malachia, chief physician to the Great Hospital at Milan, and Ludovic Zambeletti, pharmaceutical chemist in Milan, to the effect that there should be a universal pharmacopœia. If the experience of the English committee on this subject is of any value, the committee to be appointed at Vienna have a tolerably arduous task before them.

CHOLERA PANICS.

A PERUSAL of the daily journals indicates that it is a duty to enter a very strong protest against the insertion in lay periodicals of descriptions of so-called cases of Asiatic cholera. We repeat again, that if any doubtful case arise, in which both diagnostic and diplomatic work is required, it is far better to immediately communicate with the medical officer of health for the district.

DR. EDWARD SEATON, the medical officer of health for the borough of Nottingham, has just presented his first report to the sanitary authority. The report, which is worthy of some sort of index, comprises particulars as to the geological position of the town and neighbourhood, the sewerage, the water-supply (with analyses of the various waters, made by Dr. Edgar Truman, the borough analyst), the excrement disposal, and the social peculiarities which have a direct bearing on the question of public health—as house-accommodation generally, overcrowding, and the administration of common lodging-houses. The report, which is compiled throughout with great care and precision, concludes with a *résumé* of the causes of death and remarks on the local bills of mortality.

IT is to be hoped that the following newspapar cutting contains a greatly exaggerated report of the death-rate from small-pox in Glasgow:—"An alarming statement was made at a meeting of the Govan Parochial Board, held in Glasgow on Thursday, regarding the death-rate. In the Patrick district of that parish for the year ending June, 1873, the deaths from small-pox were at the rate of 97 per 1000, while the average in other four districts instanced for comparison were under 8 per 1000. The committee considered the matter of such grave importance that they recommended the board to lay a statement before the Board of Supervision, with a request that an investigation into the circumstances should be made."

CARELESS druggists ought to feel thankful that their lot is not cast in the south of France. Two ladies had lately given them stramonium in mistake for a simple domestic herb, and although they quickly recovered from the effects of the drug the unfortunate pharmacien who sold it was fiercely censured by the minister at the police court, and fined two hundred francs. That was not all, however, as the ladies have instituted a suit for damages to the extent of twenty thousand francs.

ERYSIPELAS has existed for a long time at the Mile-End Old Town Workhouse. There are at present six cases in the erysipelas ward, and the disease appears to be increasing. It is clear that this persistence of the disease depends on a constant morbific influence, and we would urge the Local Government Board to take immediate and vigorous steps for remedying all hygienic defects in the establishment.

THE mortality last week in the eighteen chief towns of the kingdom was at the rate of 25 deaths annually to every 1000 of the estimated population. In London, out of a mortality of 1477, the deaths from diarrhœa amounted to 277, showing a decline on the return of the previous week. There were 38 deaths from the various forms of fever, 26 being certified as typhoid.

THE *New York Medical Review* states that a new and deadly poison has lately been discovered, called Inœa, obtained by pressure from the seeds of the *Strophanthus hispidus*, a plant found in Gaboon. It quickly paralyses the heart, and appears to be more powerful even than digitaline.

ACTING, we presume, on Lord Derby's principle, that a hospital is the one charitable object which is "least likely to be abused," M. Paul Ragier has left to the Cantonal Hospital at Geneva the whole of his vast fortune, except £171,000 bequeathed to other charities.

THE increase of drunkenness in Russia is now occupying the serious attention of the Government of that country. The respectable portion of the community of St. Petersburg loudly call for stringent repressive measures.

MISS DR. FRANCIS A. RUTHERFORD has been appointed Vice-President of the Michigan State Medical Society. Miss Rutherford is the happy possessor of a Philadelphia degree.

AT Mountain Ash, Glamorganshire, a man was convicted in a penalty of £1 and costs, last week, for having exposed himself whilst suffering from small-pox.

THE Government have, it is said, issued circulars asking for official returns of convictions under the Licensing Act during the past twelve months.

DR. JOHN DUDGEON, whose interesting account of the epidemics that have visited Peking we lately noticed, has just received from the Czar a splendid diamond ring, as an acknowledgment of his work on the "Relations between Russia and China."

WE understand that the Holborn guardians have adopted the suggestion of Dr. Lankester, that glass lids should be placed on the coffins of bodies in the mortuary. This will greatly simplify the process of "viewing" by a jury.

THE Visiting Committee of the City of London Union have drawn the attention of the justices to the defective ventilation of the Lunatic Asylum at Stone, where there are 250 patients chargeable to the City of London.

WE were sorry to observe the extremely ungracious refusal of the Bethnal-green Board of Guardians to accept the offer of the Marchioness of Salisbury to furnish a Turkish bath for the use of the inmates of the workhouse.

THE health of Dr. Nélaton continues the same. There is still great restlessness at nights, but the patient is calmer during the day, and is able to take a little food.

IN the parish of All Saints, Poplar (the bee-hive of the metropolis), with a population of 60,000, only 11 deaths were registered for the week ending Saturday last.

SCARLATINA has broken out in the Forestgate Schools, and the guardians have been informed that the admission of children is stopped for the present.

THE medical officer at the schools of the St. Pancras Workhouse reports that a few cases of ophthalmia have appeared among the children.

IN the Poor-law schools at Mitcham, belonging to the Holborn Union, twenty-eight of the children are suffering from ophthalmia.

THE *Liverpool Daily Courier* ventilates the subject of provident dispensaries, taking Dr. Anderson's views as a text.

DR. FRANKLAND, F.R.S., reports that all the metropolitan waters were clear and transparent during the past month.

THE British Medical Benevolent Fund has received £100 in donations from Miss Caroline Brown, for 1873.

FREDERICK JAEGER'S OBITUARY BY WECKER.

DR. DE WECKER has recently published a highly interesting pamphlet—"Notice Nécrologique sur Frédérick Jaeger." We gather from it the following history of this great master of ophthalmology.

Born September 4th, 1784, at Kirchberg, a little town on the Taxt, he was the son of a surgeon who came as a fugitive to Kirchberg, where the vacancy of special surgeon to Prince Hohenlohe had just been announced. He obtained the appointment, espoused his predecessor's widow, who brought him a dowry of five children, and subsequently supplemented the family by five more, of whom Frederick was the youngest. As a child he was so intelligent that his father obtained assistance from him in dissecting, entrusted certain dressings to him, and instructed him in the operations of minor surgery. It would be difficult to find a second example of so long a medical career. Scarcely nine years old he practised venesection, and when eighty operated for cataract. When fourteen he lost his father, who died without having decided what course Frederick Jaeger should pursue.

Charles Jaeger was an established oculist at Vienna, and soon appreciating the aptitude of his younger brother Frederick, encouraged him to follow the medical profession. The youngest Jaeger commenced his studies at Wurzburg. After some years he moved to Vienna, then to Landstrut, where he graduated as doctor under the auspices of Walther. Then he returned to Vienna, where he prosecuted the special studies for the title of Master of Ophthalmology, and prepared to practise his art. But war brought these schemes to an abrupt close, for in 1809 all strangers were ordered to quit Vienna. To escape this expulsion F. Jaeger entered the military medical service, but having failed to rejoin his regiment, found himself a prisoner of war. The peace signed, Jaeger rejoined his regiment, and continued to serve in the Hungarian hospitals. After these hospitals had been evacuated, Jaeger made his way back to Vienna, and recommenced study under the guidance of Beer. Beer soon became greatly attached to this pupil, paid frequent homage to the promptitude with which he, more than any other, would appropriate his master's method and ideas, and did not hesitate to testify his confidence by making him operate before the University dignitaries.

In 1811 Jaeger qualified as Master in Ophthalmology, and in the following year was called to the chair of Ophthalmology at Pesth, but preferred to continue chief of Beer's *clinique*, whose daughter he married in 1815. The ensuing year Prince Metternich came under Beer's care with severe ophthalmia. The illustrious patient, when still convalescent from the attack, had to start for Italy, so Beer charged his own son-in-law to accompany the prince, and from this moment Jaeger became his special medical attendant and intimate friend. Thus he grew acquainted with all the highest dignitaries in Europe, and at Limburg attended General Kutschera through a dangerous typhoid fever, for which service he received, in 1825, the double title of Professor of Ophthalmology to the Military Academy of Josephenum, and Chief Physician to the Army. Jaeger should have succeeded to the chair left vacant in 1821 by his father-in-law, the duties of which he had fulfilled for two years, but as Jaeger had not pandered to the whims of the Minister and of the Emperor's special physician, their influence was sufficient to secure the appointment of Rosas, a man of doubtful scientific merit.

The most brilliant epoch for Jaeger, both as a teacher and practitioner, was between 1825 and 1839. During these years he was rightly accredited the most remarkable ophthalmologist and most able operator in Vienna, and enjoyed a world-wide reputation. He was engaged at Klagenfurth to investigate an epidemic of granular ophthalmia which was rife in the army. Honours literally showered upon him. In 1831 he a second time refused the chair at Bonn. The Sultan applied for two of his pupils to found a school of medicine, and attached one of them to his suite. Mahomet Ali committed to Jaeger's care his little son, the Viceroy of Egypt, who was attacked with granular ophthalmia. The Egyptian Government sent to him all the young men who would consent to devote themselves to the study of ophthalmology.

In 1839 he was called to Hanover to attend the ex-king. Father Graefe had been secured for the same object. At the instance of the king an operative attempt was made, though both Jaeger and father Graefe had insisted, verbally and in writing, upon the uselessness of such a step. Acute inflammation with complete failure ensued, which, added to other misfortunes, was a fresh source of vexation for the operator. In 1842 a further rebuff befel Jaeger, for, having to attend General Radetzki, he committed a famous error of diagnosis upon him. Similarity in the symptoms led Jaeger to mistake a simple abscess for a malignant tumour in the orbit; and the celebrated general rapidly recovered, despite the despairing prognosis—a mishap not without further interest, for Hartung, the general's appointed physician, a homœopathic doctor, who had associated himself with the false diagnosis, when he discovered the error turned it into capital for his own doctrine. He impudently declared that by the remedies of his school he had obtained the resolution of the cancerous growth. This started those struggles against homœopathy which brought Jaeger so

many enemies. From this date Jaeger's star seemed to wane, for he saw himself deceived in his most cherished hopes. Although a whole lifetime of labour and meritorious works had justified those hopes, notwithstanding all the degrees which he had won, he could neither obtain the Directorship of the Academy of Military Surgery at Josephnum, nor the Chief Surgeoncy to the Army. He was unable to cede to his son the chair of professor at Josephnum, the disestablishment of which returned Fredk. Jaeger to private life. He then founded with Edward Jaeger a special *clinique*, which he directed for ten years; there he gave his last lessons, and had A. Graefe as a pupil. At the age of eighty-two he still took a lively interest in the progress of ophthalmology; but in 1866 an attack of pneumonia forbad him all further activity.

The jubilee of his promotion to the rank of Master of Ophthalmology was the occasion of his elevation to the knighthood of Austria, when he affixed to his title the name of Taxthal.

In 1865 he celebrated the fiftieth anniversary of his marriage; this was the last bright page of his life. December 26th, 1871, F. Jaeger died, no longer to be afflicted with the sad recollections of the unprosperous days of his old age. What a contrast with the end of Graefe! That Jaeger should be condemned to survive not only his reputation and good fortune, but almost, so to say, himself. This outline of Frederick Jaeger's life cannot be supplemented by a long list of his books, for he published only an essay on onyx of the cornea and a monograph on Egyptian ophthalmia, though probably he inspired his son's first great work on the treatment of cataract.

Frederick Jaeger always shrank from appearing in print; he shows through his teaching, and it is no mean title to renown to have conducted the scientific education of an Edward Jaeger. His name was attached to an operation which he designated as partial section, and which his son called linear extraction.

The ophthalmic surgeon is indebted to this lamented master for more than one other advance. His operation for trichiasis, his extraction by a superior flap without fixation of the eye, and the inoculation of purulent ophthalmia in cases of pannus may be cited to his memory.

Correspondence.

"Audi alteram partem."

THE OUTBREAK OF ENTERIC FEVER AT BRIGHOUSE.

To the Editor of THE LANCET.

SIR,—Now that the controversy regarding the pollution of milk by sewage is going on, a detailed account of the outbreak of typhoid fever in Brighouse may be interesting to some of your readers.

On August 12th I received notice of the outbreak having taken place in a certain district of the town. On visiting the district, my first attention was naturally drawn to the water-supply, but that I found was of excellent quality, as it was supplied by the Halifax Corporation, and, running through pipes, could not become contaminated with sewage. That source being cut off, I next turned my attention to the drainage, but this I found good; the street drains, however, were not trapped. I could only get evidence of the drains having been offensive in two streets, and in them I also found offensive ashpits. In these two streets the fever was of a more malignant character, and there were several deaths. This did not, however, account for the prevalence of fever in other streets, so I next turned my attention to the supply of milk. In twenty-nine out of thirty cases I found that this came from the same farm. I therefore visited the farm. The cows were very fine animals, and healthy in appearance. The field was not irrigated with sewage, and therefore the grass was not sewage grass. The supply of water, however, was short, and the cows had evidently been drinking out of a pond in the field which contained the liquid sewage from the fold-yard, as it was much marked on the edges by the feet of the cattle. I also saw one cow go up to the pond and drink. Thus the cows were not drinking water contaminated by sewage, but liquid sewage itself.

There was *no typhoid fever on the farm*, nor any means of contamination, so far as I could ascertain.

I thought that I had got at the source of the fever, so I returned to Brighouse, and went again into the infected district. I found that the milk-drinkers of a family were those most generally attacked; also, that the milk would not keep a reasonable time, and instead of becoming sour it stank.

Very energetic measures were adopted by the Local Board. The drains and ashpits were thoroughly disinfected daily by the inspector of nuisances, who also supplied the families of the sick with disinfectants gratuitously. The farmer was ordered not to bring any milk into the place for seven days, and in the meantime to supply his cows with pure water. This was on the morning of the 16th inst.

On visiting other parts of the town I found thirty-two more cases, making a total of sixty-two old cases, of which fifty-nine had milk from the suspected source. In one street of about forty houses there were two cases, and they were in the only two houses supplied with this milk. In another street a row of twelve houses with one case, and this the only one supplied with this milk. The same again in a row of four houses. In a court containing eight houses there were two cases in the only two houses supplied. One man said he was perfectly well until he began to drink milk, and then he soon took the fever. Another man was well until his cat had kittens, and he bought daily one pennyworth of this milk for the cat, but as the cat did not require it all, he took the remainder to his supper, the result being that he soon was laid up with fever. Several people had been ill after taking the milk, and some had vomited.

As I stated before, the supply of milk was stopped on the 16th inst. From that day to the 21st there were six fresh cases, making a total of sixty-eight; and from the 21st up to this day—the 30th—there have been no fresh cases. Thus you see that the fever abated from the day of the stoppage of the supply of the suspected milk. From these various circumstances I conclude that the milk was the source of the infection, and that, such being the case, it is not advisable for cows to feed off grass upon which sewage is running *at the time they are feeding*. That the proper time for sewage irrigation of grass land is winter, when the cattle are not in the fields, so that before spring the sewage may become absorbed and the fields then fit to receive cattle.

I am, Sir, yours truly,

Halifax, August 30th, 1873. THOS. BRITTON, M.D.

PROFESSOR LISTER ON ANTISEPTIC SURGERY.

To the Editor of THE LANCET.

SIR,—Mr. Wood's address at the recent meeting of the British Medical Association,* and your editorial remarks upon it†, if left unnoticed by myself, might lead your readers to suppose that I had relaxed in my efforts to promote antiseptic surgery. I therefore beg leave to state through your columns that, during the two years which have elapsed since the delivery of my address at Plymouth, I have been steadily endeavouring to lay more broadly and deeply the foundation upon which the antiseptic system is based, to improve our methods, and to cheapen our materials.

For some fruits of my labours in pursuit of the first of these objects I may refer to *Nature* of the 10th and 17th of last month, which contained an abstract of a communication‡ which I made in April to the Royal Society of this city, and which I am now engaged in preparing for publication *in extenso* in their Transactions.

The results of my endeavours to promote the other two scarcely less important objects I hope to lay in due time before my professional brethren, together with evidence of their value in practice. Meanwhile I must content myself with the general statement that we are attaining with greater constancy than ever before, the entire exclusion of

* THE LANCET, August 9th, 1873. † Ib., August 23rd, 1873.
‡ "On the Germ Theory of Putrefaction and other Fermentative Changes."

putrefaction from our wounds, and that we are consequently able to undertake with confidence operative procedures which, without efficient antiseptic measures, would be simply homicidal; while the grand fact of perfect immunity from pyæmia and hospital gangrene remains in its integrity in my crowded wards.

Why it is that Mr. Wood should have obtained results so widely different I must leave your readers to infer, merely remarking that, of the many strangers who have witnessed my practice since his address was given, not one appears to have had any hesitation in arriving at the true explanation.

I am, Sir, yours, &c.,

Edinburgh, August 30th, 1873. JOSEPH LISTER.

NAVAL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—Your impression of the 9th ultimo contained a powerful and sympathetic letter from Sir Dominic Corrigan on the resignation of some young naval surgeons, and on the procedure adopted by the Admiralty in their case. As might have been expected, this letter has drawn forth others, which have discussed the legality, expediency, and even absurdity of the conduct of the Admiralty. All of them treat the subject from the civil side; will you permit me to add a few remarks from a naval point of view?

The *legality* of forcing these gentlemen to serve is easily disposed of. *Unless actually employed*, the Admiralty cannot compel any officer to take up an appointment. Any candidate, therefore, who has completed his course at Netley can legally demand his discharge *before* he is appointed to a ship. The late assumptions of the Admiralty have evoked this clear enunciation of a bare fact. I am not, however, concerned at present with this point of the case, but with others. I ask—

1st. Is it politic of the Admiralty at the present juncture to offend the medical schools of Ireland? Their lordships cannot surely forget their peculiar obligations to these schools for so generously supplying the service for some time past, or their present close connexion with it, or the very recent fact that 80 per cent. of all the surgeons last gazetted to commissions came from these schools, including 50 per cent. from Dublin alone. The scant courtesy of Mr. Goschen's replies to Sir Dominic in the House of Commons, and his colleagues' treatment of the young members of their schools—two most sensitive media—will soon produce apparent results.

2nd. Why cannot the Admiralty manage such affairs as men of business and common sense manage theirs? When serving in China ten or twelve years ago, the following story regarding a large Ocean Company was current there. One of their medical officers, fresh from home, saw an eligible but immediate opening in a port, and obtained his discharge then and there. He thanked the Company in appropriate terms for the boon obtained, and considered it his duty to enclose an order for the amount of his passage-money. The Company, in a most courteous reply, returned his check, but wished him every success, and expressed their gratification at hearing of his and any similar successes. Contrast this with the Board of Admiralty threatening arrest, as deserters, in the public streets, by the police! Not a shadow of doubt crosses my mind that each of their gallant lordships, on suitable occasions, has despatched numerous masters-at-arms and all the myrmydons these functionaries could muster, to apprehend, *vi et armis*, as numerous gangs of deserters who had absconded from their ships, and to perform other like heroic acts. But then they were ocean swells. Now they compose a sedate board located within the cool portals of Whitehall, within convenient hail of the cooler Palace of Westminster, as they will probably discover when Parliament meets. Meanwhile, Sir Dominic's and the other letters may be safely recommended as a useful vade-mecum to all who are disposed either to join or to resign H.M. naval service.

Finally, when their lordships deliberately accept the resignation of *any* medical officer, it is to be hoped that, *to prevent misconceptions*, they will continue calm long enough to direct that such officer's name may appear under its proper heading, and that it be *not* consigned to the next obituary. The name of Dr. Henry N. Maclaurin in the Navy List of March 20th last shows that this hint is not altogether unnecessary. Had I not some knowledge of the circumstances connected with the resignation of this talented officer, who is now in a lucrative practice at the Antipodes, I should charitably have supposed that this was only a clerical error.

I am, Sir, your obedient servant,

C. K. ORD, M.D. Edin., R.N., &c.

Lewisham, S.E., Sept. 1st, 1873.

To the Editor of THE LANCET.

SIR,—Besides the question so well ventilated by Sir D. Corrigan, as to the very impolitic refusal of the Admiralty to allow surgeons of the navy to leave the service, I beg, if not taking up too much of your valuable space, to suggest to him one or two others.

Their lordships, I am given to understand, persistently decline to allow staff-surgeons of twenty years' service to retire on a commuted pay, although once promised it.

They have, at the same time, fixed the number of staff-surgeons, first and second class, at 210.

I request Sir Dominic's attention to the fact that out of that number about 54 are on half-pay.

If he would kindly condescend, on the reassembling of Parliament, to call for a return of the difference between the half-pay of these enforcedly idle medical men and the pay they would receive if allowed to retire, perhaps it might be found that a saving of the public money would be effected by allowing them to go, or a large moiety of them.

It might also possibly be found that the feeling of being allowed to retire with a moderate allowance at an earlier age, instead of being bound hand and foot till sixty, would immediately cause a considerable increase of candidates, and that the absence of a large reserve on half pay would be thus remedied in the event of any sudden emergency.

Would Sir Dominic be kind enough also to inquire the weighty reasons which induced my Lords, in giving a new nomenclature to the medical officers of the navy, to bestow upon them the cast-off names of the army? Also for what grave defect they are at the end of their career in the service placed on a lower scale of retiring pay than the other officers of the navy with whom they are, in other respects, somewhat ostentatiously classed?

Should he be told, as no doubt he will be, that those other officers have no such promotions in their ranks as those to inspectors and deputy-inspectors, will he kindly inquire how many such promotions are annually made, and whether they are open to everyone, as is the case with the increased retirement?

If told, as he may be, that in the army the retirement is even less, will he then ask for information as to whether promotions are not greater, and whether they do not finish their service at a much earlier age, and have in the meantime more full pay, and less half pay, in the sister service?

I am sure, Sir, that the great Dublin physician will earn for himself a still greater name, and the thanks of the medical service, if he steadily follows out what he has so well begun.

With thanks for your own steady advocacy of the right,

I am, Sir, your obedient servant,

Aug. 19th, 1873. R. N.

A DELICATE OFFICE.

To the Editor of THE LANCET.

SIR,—In your Medical Annotations last week you refer to the Essex Provident Society appointing a medical referee to the Chelmsford district.

This Society numbers something like twenty districts, and in each district a medical referee is appointed by the local committee. The office is, doubtless, of a very delicate nature, and the referee, to keep out of hot water, will require to step very cautiously. In some of the districts the referee is not debarred from attending the members in sickness. In the Halstead district, for example, there are two medical firms, each having about the same number of members of the club to attend in sickness. One of these medical gentlemen has been appointed the medical referee, at a

salary of £20 per annum, and he is still allowed to attend in cases of sickness. The other medical man, who has been ten years longer in practice, takes exception to this young gentleman being allowed to ride over him, and visit his patients for the purpose of signing certificates, &c., for the payment of sick members. Consequently, the senior medical man throws up his patients, and the medical referee not only attends all the patients, but is paid a salary to be medical referee to his own cases.

It is doubtful whether this new scheme will work well, as senior practitioners will not be interfered with by their junior brethren. I should like to hear more of this new "delicate office" from other surgeons who are interested in the various branches of the Essex Provident Society.

Yours truly,

August, 1873. VERAX.

To the Editor of THE LANCET.

SIR,—I am glad to see, in your last issue, that you have taken notice of the late appointment of a medical referee to the Chelmsford district of the Essex Provident Society. It is indeed "a delicate office," far too delicate for the successful manipulation of any earth-born mortal if he is to carry out the instructions of the society.

A medical referee may be a very useful, and in fact is a very necessary officer to this important society; but the present plan of a medical referee, and the rules laid down for his guidance, must prove vexatious to the sick members and their medical attendants, and will, if persisted in, tend to the utter annihilation of the society, which is just now anything but popular, owing to some late very sweeping modifications in its financial arrangements.

I am, Sir, faithfully yours,

ARTHUR GOODCHILD.

Little Waltham, Chelmsford, August 30th.

ANÆSTHETIC TRAVELLING.

To the Editor of THE LANCET.

SIR,—*Apropos* of your remarks on anæsthetic travelling, called forth by Dr. Squarey's letter on the subject, perhaps the following account of a more extended journey than that narrated by my colleague may be interesting, as showing the ease with which such can be accomplished.

About five years ago I accompanied a patient of my father's, a highly nervous lady, to Boulogne, during nearly the whole of which journey she was under the influence of the tetrachloride of carbon. I commenced the administration in the railway, intermitted it during the change on to the steamer, kept it up during the passage, which entirely prevented any sea-sickness, and the patient did not recover consciousness until she was in her bed at Boulogne. Five or six weeks afterwards I went over to Boulogne and brought her back the whole way under the same anæsthetic, to her manifest great advantage. I can, therefore, confidently recommend anæsthesia, both as a means of conveying hyperæsthetic patients in their journeys, and also as a preventive of sea-sickness. I also think that the tetrachloride of carbon is a better agent for such work than chloroform, as it is less depressing, and requires a less quantity to produce the same effect, which is a point to be considered in a prolonged administration.

I remain, Sir, yours very faithfully,

St. Andrews, September 2nd, 1873. HEYWOOD SMITH.

PRACTICAL WORKING OF AN IRISH DISPENSARY.

To the Editor of THE LANCET.

SIR,—The following instance of the practical working of an Irish dispensary has been brought under my notice since my arrival a few days ago in county Limerick.

A patient was duly certified as being a proper case to be taken into the fever ward of the dispensary, which, however, was some ten Irish miles distant. A carriage was sent from the dispensary for the patient. The driver and the patient found it necessary once and again to take something comforting on the road. As bad luck would have it, the road divided about half way between the patient's home and the town in which the dispensary was situated, and it happened that neither the horse nor the driver recollected the way they had come, and took the wrong route. After a time they arrived at a town which proved not to be the one they wanted, and it was then discovered that they had missed their way. The patient considered this as an indication from the souls of his departed forefathers that he ought not to go into the dispensary, and walked back to his own home, a distance of seven Irish miles.

I am, Sir, your obedient servant,

August 23, 1873. H. L.

AUTUMN MANŒUVRES AT CANNOCK CHASE.

(From our own Correspondent.)

NOTWITHSTANDING the persistent rain, the programme of the Manœuvres is being worked out. Up to the end of last week the 1st Division returned at the conclusion of each day's instruction to its standing camp, but on Monday morning moved to a position within a couple of miles of Stafford, with the intention of fighting its way back during the present week to its original camp ground.

The amount of physical exertion required of the men has not been excessive, but their condition has been rendered very miserable by heavy and repeated wettings. The most striking peculiarity under such circumstances is the care with which the great-coat is preserved neatly folded and strapped either upon the knapsack or above the valise, while the rest of the man's clothes are being thoroughly soaked. Whether lying down for hours in reserve, or slowly advancing as skirmishers, still the men made no use of their coats. For the neglect of so obvious a protection there must of course be reasons, and they are these:—The difficulty of extracting the coat from its position, the trouble of refolding and replacing it when wet and not further needed, and the desire of keeping it dry to sleep in. Thus the great-coat virtually becomes an ornament by day and a partially damp bed-gown at night, and the question even arises whether it be not the wisest plan. Yet the possibility of such alternatives shows a serious deficiency in the soldier's equipment. The issue of a light waterproof cape, in which the present great-coat, lessened in weight by the removal of its cape, might be enclosed, would be an evident improvement. By means of this a man crouching might, when not in motion, completely shelter himself, and still retain his great-coat for purposes of warmth. It is said that a movable cloth cape is attached to the newest pattern of great-coat, and that this, which would of course be of little use to cover the projection of the old knapsack, can be worn separately, and made to protect the bodies of those fortunate enough to be provided with the valise. This, however, is of no advantage to the large proportion of the army who are still equipped after the manner of their forefathers.

It is also to be wondered at that so little benefit should have as yet accrued to the soldier from the various improvements in waterproof materials. Probably many cunning devices do exist as "sealed patterns," but that is poor consolation to the dripping private.

An accidental but rather serious oversight seems to have been generally committed with regard to the soldier's underclothing, in allowing so many to provide themselves with calico instead of flannel shirts. The risk of such material next the skin during exposure to cold and wet is apparent. The men procure these out of store in consequence of their cheapness; and here arises another consideration which has been repeatedly urged by the press, and ought not to be overlooked—viz., the hardship to the men of being compelled to hack out their clothing at Autumn Manœuvres, and then to renew the kits at their own expense, while receiving no compensation whatever for such artificial service. This excites considerable murmuring in the ranks, more especially as the idea gains ground that these Manœuvres have been instituted more for the instruction of general officers and for testing the capabilities of various departments than for the education of the individual soldier.

The means of ablution provided is very inadequate, consisting of one leather bucket to each tent—i.e., to every fifteen men; and this utensil has to perform the double

office of carrying water and acting as a basin. It but little affects the fighting powers of a man whether his face and hands have been washed, no matter how it influences his appearance on parade; but it does make a difference in his value whether he has chafed between the buttocks and thighs from accumulated perspiration and dirt, whether his feet have been softened and excoriated by the same, and whether he, with fourteen others, should emit from his uncleansed body such emanations as to render the air in each tent poisonously fetid at night. The exercise of very little ingenuity would suffice to convert the waterproof canteen-cover, which might be resumed in the new valise, into such a shape that it would expand into a very serviceable basin, on the same principle on which the outfitters have designed india-rubber basins for officers. By the erection of a furze or other screen, a lavatory can be extemporised, and every man can then be compelled to be cleanly, instead of running the risk of becoming ineffective from a preventable cause.

No doubt it may be urged against all this that the force at present under observation is exceptionally healthy, but most of these wants have been supplemented by regimental arrangements which would be impossible on active service, and as preparedness for that contingency is the object of the present effort, it is all the more desirable that remediable defects should be brought to notice.

Near Rugeley, September 3rd, 1873.

BIRMINGHAM.

(From our own Correspondent.)

CHARITY, as well as art, are large gainers by the great success of the recent Birmingham Musical Festival. 15,506 persons testified their love of art by attending the Festival, and the total receipts amounted to upwards of £15,800. Of course a large sum has to be deducted for the expenses incident to so colossal an undertaking, but as the sum handed over to the committee of the General Hospital in 1870 as the net profits of the last Festival amounted to £6195, and the increase both of the numbers attending and of the receipts is on this occasion considerable, the gain to the funds of the charity will not probably be far short of £8000. Last year the hospital expended £11,000, and as but a small proportion of this is derived from endowments, it would be impossible for the committee to keep their 252 beds filled and to minister to the wants of their many thousand out-patients without the help of this ever-increasing and ever-popular method of eliciting sympathy and of gaining money.

The death of Dr. George Fabian Evans, the late senior physician of the General Hospital, which took place on August 31st, is greatly deplored by the whole profession here. For thirty-four years he had acted as physician to the charity, and in that sphere of widespread usefulness had gained for himself universal respect and esteem. On his retirement in 1871, a handsome testimonial was presented to him, the greater part of which—upwards of £700—he devoted to the formation of a medical library. Dr. Evans was little known as an author, but as a practical physician, profound scholar, and accomplished gentleman he enjoyed the highest reputation throughout the Midland Counties. Dr. Evans died of cancer, at the age of sixty-seven.

Dr. Fleming, the senior physician of the Queen's Hospital, has been for the last eighteen months on the Continent for rest and change, and he is now on the point of resigning his appointment in consequence of continued impairment of health. His retirement will be a matter of regret to the present as well as the former students of the Queen's Hospital, for his large and varied knowledge and his great success as a clinical teacher have made him deservedly popular both at the bedside and in the lecture theatre.

Sir Henry Thompson has been invited and has consented to give the annual address of the Midland Medical Society. Dr. Corfield, of University College, has been appointed by the Council of the Midland Institute to deliver a course of lectures on the "Study of the Laws of Health," and Drs. Charlton Bastian and B. W. Richardson will lecture respectively "On the Beginnings of Life" and "On the Pioneers of Modern Science" during the ensuing session.

The Reverend Canon Espin having resigned the office of Warden of Queen's College, which he has held for the last twenty years, his friends and admirers propose to present him with a testimonial. He is succeeded in that office by the Reverend H. C. Ogle, M.A., Fellow and late Tutor of Magdalen College.

The recent election of Dr. George Wilson, Medical Superintendent of the Portsea Convict Prison, to the appointment of Medical Officer of Health for the County of Warwick has given general satisfaction, and he will doubtless have the unanimous support of the medical men throughout the county in the prosecution of his extensive and arduous duties.

Birmingham, Sept. 1st, 1873.

IRELAND.

(From our own Correspondent.)

WE have been greatly exercised lately about our bread. The bread supplied to the troops in the Dublin garrison having been complained of, the flour was analysed, and declared to be unfit for human food. The analyst discovered that it contained a considerable quantity of mineral matter. Six thousand pounds weight of this bread was therefore sent to the Zoological Gardens for the use of the birds there. The name of the contractor, though demanded, was not given, but it was stated that he was a London man. Various theories were started as to how the flour became so adulterated. One of the guardians of the North Dublin Union stated at the board meeting that there are quarries of white stone in Wales which it is easy to pulverise. This stone, when ground down and mixed with flour, makes beautiful bread to look at, and people don't eat much of it. A substance called China clay, largely used in the manufacture of paper, and lately to thicken calico as well, was also suggested. The military authorities, as already mentioned, would not give the name of the contractor, and he was reticent himself. Perhaps loyalty was his motive, being desirous to render Her Majesty's troops proof against bullet and bayonet by the process of macadamisation; perhaps economy, being desirous to please Mr. Lowe. We civilians hope that he has spared us.

It is perhaps rather late to mention the circumstance now, but it only became public last week. Some time ago a Cork gentleman sold some foxhounds to an English master of hounds. When they arrived at the kennel they were refused, as not being in accordance with their description. They were then sold by auction and purchased by a London dealer in connexion with the provision trade. An action was brought last week at the Liverpool Assizes to recover their value, and one of the learned counsel remarked that they had been made into sausages. They were described as being "lame, mangy, old, and unbroken," so perhaps it is as well that we knew nothing about it at the time.

Our preparations for the reception of cholera are steadily retrograding. A month ago we selected a site for a cholera hospital, which was at once most unsuitable, condemned by the military authorities, and in direct opposition to the wishes of the people of the neighbourhood. The owner of the property also refused to grant the site. We then selected a hulk—a discarded powder magazine, intending to convert it into a floating hospital. Unfortunately, however, upon investigation, it was discovered that it would cost £2000 to make a canal to remove it from the position in which it had lain for years, and £500 to fit it up as a hospital. The shipbuilder who reported upon it further stated that he did not consider it to be suitable for a hospital, so we are just as we were many months ago, and have not yet turned our attention towards providing means to convey patients to hospital.

A curious example of the existing state of the law for the removal of dead bodies cropped up lately. A child died in the district of the South Dublin Union. The parents were so poor that they were unable to provide the necessaries for its burial, so the body remained in the room where they lived until it came under the provisions of the Nuisance Removal Act. The neighbours then drew the attention of

the sanitary authorities to the state of the body. They had it removed to the morgue, which happens to be situated in the district of the North Dublin Union. The relieving officer of the latter union, on being applied to to provide for the burial of the child, declined to do so, as it did not belong to his union. The relieving officer of the South Dublin Union declined to bury it, as the morgue was not in that union. However, ultimately the relieving officer buried the child at his own private expense, expecting to be paid by the board of guardians. When the matter was brought before the Board of Guardians of the North Dublin Union they referred it to the Local Government Board, who replied that the Sanitary Act did not appear to contemplate such a state of facts as exists in this case. It was then resolved that the Guardians of the South Union be applied to for payment, and there the matter rests at present. The probable solution of the difficulty will be a lawsuit. The *Irish Times* suggests to the Guardians of the South Union that "it would be far cheaper to build a morgue for themselves than to enter upon a course of litigation."

During the past fortnight we have had several thunderstorms, and, as usual, immediately afterwards, we hear of the appearance of the blight in the potato crop. The affected potatoes are described as melting away in the ground, as if from some cause they became soluble, nothing remaining after a little time but the skin. An ingenious theory has been started, owing to this fact. The electrical condition of the atmosphere causes the conversion of the starch into dextrine and sugar, &c., which would account for its solubility. This difficulty, however, arises: Why did not thunderstorms act thus before the period known as "the failure of the potato crop"? and it is attempted to get over it by saying, that at that time were introduced artificial manures into Ireland, amongst others the superphosphates, in the manufacture of which a large quantity of sulphuric acid is used.

In the recent inquiry into the condition of the Civil Service in Ireland, it was natural that there should be some reference made to the incomes obtained by professional men in this country. Some extracts from the evidence given may interest your readers. Dr. E. Kennedy stated that in Dublin a competent medical man, having the advantages of a hospital and connexion, ought, when of ten years' standing, to make from £800 to £1200 a year; if reasonably successful, he ought then to double his income in the course of the next five or six years, and a really successful man ought in a few years more to double his income again; but the instances in which a medical man reaches £6000 a year or £5000 are very rare. The advantage of a hospital physician is that his pupils become scattered about the country, and send up patients to him. In the chief provincial towns of Ireland, with a large population, the leading medical man may possibly reach from £1200 to £2000 a year. Sir D. Corrigan, who was also examined, thinks there are perhaps ten or twelve medical men in Dublin making from £2000 to £6000 a year, or more; and there are a great number, whose names are not very prominently before the public, making from £800 to £1000 a year. There are general practitioners in Dublin, men who have never written a line, and who are unknown to the public as men of great eminence, who sometimes accumulate large fortunes. With regard to lawyers, Mr. J. Ball, a Dublin solicitor, says there is a very large number of solicitors making from £200 to £500 a year, but very few making £1000 a year. He states that it is a common thing for an articled clerk, when his time of apprenticeship is out, to continue in the office as a salaried clerk. He says, "I am myself paying a solicitor £400 a year in my office, but he is an experienced man, and in fact older than myself; that is an unusual case, and is owing to my official position as soliciter to the Church Temporalities Commissioners. I am paying another solicitor in my office £200 a year, a third £2 a week, and two or three 30s. a week. Nearly all the men in my office are of that stamp." Mr. G. May, Q.C., stated that he thinks that there are not more than one or two men at the Irish bar who are making £4000 a year; that there are five or six making £3000, about twenty making £2000, and a considerable number making £1500. Mr. Ball says there is a fair number making £1000 a year, but a much larger number making less. An Irish barrister does not generally have to bear the expense of "chambers"; briefs are sent to his house.

Dublin, Sept. 2nd, 1873.

PARIS.

(From our own Correspondent.)

THE works of the new Hôtel Dieu building will soon be resumed with activity. They have been suspended, not only through lack of money, but through the indecision of the municipal authorities, who were at a loss to know what to do with these huge buildings. Notwithstanding the objections put in by the medical body here, who were always averse to the scheme of a gigantic hospital built on the plan which was adopted, and situated where it was, the municipal authorities have at last determined to finish the buildings, and adapt them for the purposes of a hospital. So it is to be expected that shortly the old Hôtel Dieu will be transferred to the new one, which will constitute quite a nosocomial city, with its immense dependencies, kitchens, laboratories, dead-house, wards, halls and chambers for twenty-four house-surgeons, baths, chapel, accommodation for the community of sisters of mercy, pharmacy, amphitheatres of pathological dissection, &c. &c. I think it would be of scarcely any interest to describe the particular spot and position which have been assigned for each of these departments.

There has been a monster petition circulating among the inhabitants of Paris for some time recently, urging on the Government to interfere and prevent the Paris watercompanies from distributing their waters to private houses through the lead pipes which are still so commonly used. Meanwhile, a spirited merchant of the town, M. Porrier, has entered an action against one of the companies' engineers, who some time ago constructed the necessary works for conducting water from a main pipe of the companies' to his (M. Porrier's) dwelling. The pipes laid down were all of lead. M. Porrier and his household, having often suffered from lead colic, got the water analysed, and carbonate of lead was discovered; and M. Porrier is now prosecuting the engineer for having knowingly exposed him and his family to danger of poisoning through neglect in choosing the proper material for conveyance. The engineer's excuse is that he always uses lead pipes, and that they are not always complained of.

The Collége de France, one of the most celebrated institutions of Paris for the teaching of the higher branches of science and literature, is now undergoing repair. The vacations are being utilised for the purpose. It is a square, flat building, with porticoes, and corridors along the lecture-rooms, and rather dark and monotonous in its general appearance. The lecture-rooms are being enlarged, and some other improvements carried out. It is here that Claude Bernard delivers his famous lectures, and that Marey, whose ingenious experiments in physiology attracted so much notice at the last Association meeting in London, conducts his experiments in his laboratory, or explains them to a numerous and sympathetic audience. At this institution all the Professors are nominated and paid by Government; it is a State institution. The Professors get about £300 a year.

It is supposed that Baron Haussmann's scheme for instituting a large burial-ground at Mary-sur-Oise, out of town, so as to afford the space now wanting in the city cemeteries, and to conduce to the health of Paris, will shortly be adopted, now that he is out of power, after having met with considerable opposition when he suggested it. The Northern Railway Company, which will have to make the railway arrangements for the conveyance of the bodies, and which stoutly opposed M. Haussmann's project, has now sent in its adhesion to the Prefect of the Seine; and on its next meeting—namely, the 6th of October—the Town Council will be called upon to decide. It is very likely that a special station will be provided beyond the present fortifications, so that the ordinary railway passengers will be spared the painful sight of the funeral trains.

CORONERS' FEES.—At the August General Sessions for the County of Middlesex, the report on fees to coroners for the preceding twelve months showed that Dr. Lankester had held 135 inquiries at a cost of £343 15s.; Mr. Humphreys, 132 inquiries, at a cost of £224 4s. 6d.; while Mr. St. Clair Bedford and Dr. Diplock held respectively 39 and 58 inquests, at costs of £78 4s. and £106 15s. 6d.

THE SANITARIUM OF SOUTH AFRICA.

(From a Lay Correspondent.)

No. IV.

I HAVE now arrived, in my description of this country and climate, at the extreme point of the line which I drew in my first letter, and I now enter on the subject of Bloemfontein and its neighbourhood.

Though Bloemfontein is the capital town of the Orange Free State, and, besides, is the cathedral city of the bishopric of Bloemfontein, yet it must not be supposed that in outward grandeur it is very imposing. It partakes of the characteristics of all South African villages, and it would seem that the generality of visitors to it are disappointed both by its appearance and by the accommodation it affords. Hotel living at Bloemfontein is expensive and not very good; but of course here, as everywhere else, if an invalid could manage to be taken in by a private family he may light on very comfortable quarters.

The most prominent feature of the scenery of the Orange River Free State is the immense extent of perfectly flat country, covered by very long grass. Plain succeeds plain without any break to the horizon, and the eye perfectly wearies of the monotony.

The climate of the Free State is very dry, especially in winter; but from the fact of its being a grass country instead of a bush country, I almost doubt whether, taking the whole year round, the climate can be altogether so dry there as in some parts of the Nieuwoeld. The air is very light and keen, and in winter it is very cold; and owing to its being even higher than the Nieuwoeld the cold in winter seems to be even more severely felt. The winds in winter are very cold and cutting, but, on the whole, these perhaps are hardly so trying as in the Nieuwoeld. In summer it is subject to thunder and hail storms of even a more terrific nature than those which visit the Nieuwoeld, and such an effect do these storms have on the atmosphere that I have known of the thermometer at the Diamond-fields falling as much as thirty degrees in a quarter of an hour, and the Orange River has frequently been known to rise as much as twenty feet in one night. On summer mornings there is frequently a thick mist, which hangs over the face of the country for some time, and this should be carefully avoided by invalids. The heat in summer also is very intense, and this forms the great objection to Bloemfontein as a summer residence, though I doubt whether, as a winter residence, there is any better place in the whole of South Africa.

The best way of reaching Bloemfontein and the Free State is by way of Port Elizabeth; for though it may be reached by transport waggon from Cape Town to the Diamond-fields, and by post cart from there, yet this is a much longer and more fatiguing route. The best route is from Port Elizabeth by means of Cobb and Cole's coaches. These coaches pass through Grahamstown and Cradock to Philippolis, whence the remainder of the journey may be easily accomplished either by post or private cart. Port Elizabeth (which it may not be altogether superfluous to mention is the same as Algoa Bay) can of course be easily reached by steamer from Cape Town, though it is generally a very rough and trying passage, but invalids must be careful not to spend more than a day or two at Port Elizabeth.

Port Elizabeth is, without exception, the worst place for consumptives in the whole of the Cape colony, and I should think that few worse places could be found in the whole world. This is a fact which should be more widely known among the medical profession in England than it would seem to be, as at present many patients in various stages of pulmonary disease are sent out to Port Elizabeth in the hope of obtaining employment there, who find on their arrival that their only hope of retaining whatever good they may have obtained from the voyage out is to move on at once to places further up the country, where they would stand very little chance indeed of getting employment of any description.

At Port Elizabeth the wind seems to blow always, and always in one of two directions, either from the north-west from the land, or from the south-east from the sea. The north-west wind is always very strong and boisterous and is sometimes very hot and oppressive, while the south-east wind, though generally mild, is so damp and clammy that none but the strongest constitutions are able to stand it. Some idea of the humidity of the atmosphere may be obtained from the fact, that although in the high parts of the colony rifles and guns may be left exposed to the action of the atmosphere for months together without the slightest fear of rust, one night's south-easter at Port Elizabeth is sufficient to rust a gun completely; and I believe that frequently the humidity of the atmosphere is above 70°, 100° representing complete saturation.

Grahamstown, however, which is only a day's journey from Port Elizabeth by Cobb and Cole's coaches, possesses quite a different and a much better climate, and any invalids landing at Port Elizabeth should make a point of going on there immediately. At Grahamstown a good rest may be taken, and the remainder of the journey to Bloemfontein done in easy stages by stopping at Cradock and Philippolis. The climate of Cradock is very fine, and, indeed, it is by many preferred to that of Bloemfontein. Very good accommodation may be obtained there, together with every comfort. Cradock has quite a reputation in the colony as a sanatorium for invalids, and there are a good many consumptives staying there for the benefit of their health, so that if necessary, a stay might be made there for some considerable time.

I have now completed my description of all such parts of the colony as I think would be suitable as residences for consumptives leaving England for the benefit of their health. I have not, in this description, thought it necessary to touch at all on the midland provinces of the colony, as they present no special feature of interest for invalids, and are, as a rule, either too hot or too damp to make a good residence for invalids.

I now wish, before closing this letter, to say a few words on the way in which consumptives are sent out from England. Since I have been in the colony I have both seen and heard of many very distressing cases of consumptive patients sent out here when all reasonable hope of their recovery had quite passed, simply to die a lingering death far away from their country and kindred. Unless a patient intends to take up his residence permanently in the colony, it would seem of little use to come out here, except in the *very first* stages of the disease. Moreover, unless a patient has gained a certain amount of strength before his arrival in the colony, he will not be able to stand the fatigue incidental to all travelling out here, nor put up with the accommodation which he will find on his way, and I think I have shown that when he is here he must be prepared to put up with a fair amount of cold and bad weather. The voyage out seems generally to have a beneficial effect, but this is not always the case, as in some instances patients suffer so severely from sea-sickness as to arrive here weaker than when they left England, and this is a point which ought always to be taken into consideration.

I believe that, taking the whole of the colony into consideration, there can be few better climates in the world than can be found here, but my object in these letters has been to give the medical profession and the public generally a more definite idea of the state of things out here than they usually possess, so that this colony may, by the exercise of due foresight and care, be made more effective than it hitherto has been as a sanatorium for invalids.

Cape of Good Hope, Nov. 1872.

Obituary.

MR. W. N. CHIPPERFIELD.

ON the 22nd of May Madras lost one of her ablest practitioners in Mr. W. N. Chipperfield, superintendent of the Eye Infirmary. The deceased gentleman had for some months been in precarious health, and it was, we believe, his intention to have applied for leave of absence, but he struggled on in the discharge of his public duties and of his responsibilities in private practice till an apoplectic seizure carried him off. At about 11 A.M. paralysis of the right arm and leg appeared, soon followed by unconsciousness and death.

Mr. Chipperfield was a distinguished student at St. Thomas's, where he took nearly all the prizes and scholarships of his year. The governors of the hospital, having had a nomination to an assistant-surgeoncy placed at their disposal by one of the directors of the East India Company, selected Mr. Chipperfield for the appointment. This was in 1855, before admission to the Indian medical service was thrown open to competition. Soon after his arrival in Madras Mr. Chipperfield saw something of a military surgeon's life in the disturbances of Kumedy and Goomsoor. He served for some time with a native corps in Burmah, but about 1859 Dr. Pearse, the Director-General of the Medical Department, offered him the Professorship of Anatomy and Physiology in the Medical College, an appointment which at the time was associated with that of garrison assistant-surgeon of Fort St. George. For the past fourteen years Mr. Chipperfield was employed in the presidency town in connexion with the Medical College and General Hospital and Eye Infirmary. The post of superintendent of the latter institution he obtained in 1867. He was a Fellow of the Madras University and also some time member of the Syndicate.

Mr. Chipperfield had many of the qualities of the first-rate surgeon. Acute and observant, cool and decisive, he was a student, and kept himself well abreast of the science of his profession. He was also a genial man of the world, and while his colleagues and brethren consulted him in all cases of difficulty, his extensive *clientèle* bore witness to his personal popularity. He was an accomplished writer, and contributed to the old series of the *Madras Journal of Medical Science* a number of papers on sanitary subjects, to say nothing of critiques of current medical literature. For some time he edited that periodical in conjunction with Messrs. Cornish and Montgomery, and afterwards single-handed; but in 1868 he had to seek repose and health in his native country. He returned to India in 1870, apparently improved, but really only partially so. His strength was never re-established, and his bright but brief career of eighteen years came to a sudden close on the 22nd of May.

He leaves a widow and children, while his name is sought to be perpetuated by a memorial expressive of the admiration and esteem in which he was held. A public funeral was accorded to him in St. Mary's burial-ground, with military honours.

EDMOND WATERS, L.R.C.P., M.R.C.S., &c.

SELDOM do we meet with an event more painful than was the death of the above-named gentleman, whose premature end has caused the deepest sorrow to all who knew him.

Edmond Waters was born in 1819, at Mangalore, Madras Presidency; his father, George J. Waters, Esq., being then senior judge of the Covenanted Civil Service, E.I.C. After serving for some time as a midshipman in the mercantile marine, he determined to study medicine, and entered at University College, London, under the guidance of Geo. W. Hind, Esq., F.R.C.S. In 1845 he passed the College of Surgeons, and subsequently gained practical experience in Wales, Gloucestershire, and Warwickshire. In 1853 he was appointed surgeon to the Coventry Provident Dispensary, an institution for which he worked most zealously, as may be inferred from the following extract from the *Coventry Herald* of July 18th:—"As applied to Dr. Waters, it is no conventional and unmeaning phrase that he will be greatly missed. No form was more familiar in our streets than his, and no face more welcome in the hundreds of homes to which his words of hopeful encouragements, no less than his professional skill, brought comfort and relief. He possessed that quality which perhaps more than any other contributes to the success of a medical man—a good manner; contact with the man produced a liking for him, and the poorest and most humble of his patients could feel no restraint in his presence, nor anything which could check the freedom of their confidence. Dr. Waters was appointed surgeon to the Provident Dispensary twenty-one years ago, and his removal will be keenly felt by the members of that institution, by whom he was held in high estimation."

After visiting a patient a few miles out of town on July 14th Dr. Waters had a fall from his horse, which led to a fatal issue in twelve hours afterwards. His funeral on the 18th proved the high regard in which he was held, nearly all the shops along the line of route being half shut, and many thousands of the townspeople lining the approaches to the cemetery, many of whom shed bitter tears of regret for one whom they loved so well.

ROBERT PENTLAND, F.R.C.S.I.

ON the 27th June, 1873, passed away one of the best operators and most successful practitioners among Irish provincial surgeons, in the person of Robert Pentland, F.R.C.S.I., of Drogheda. Apprenticed to the late celebrated Abraham Colles, he passed his examination for the letters testimonial of the Royal College of Surgeons in Ireland, and became a licentiate of that body in the year 1816, having been for six years resident pupil in Steevens' Hospital, under the supervision of his distinguished master and most of the other greatest surgeons of the Irish metropolis then alive, all men of celebrity and attainments. Within a short period after obtaining his qualification he was elected surgeon to the Drogheda County Infirmary, which post he continued to hold until death removed him from office, in the fifty-sixth year subsequent to his appointment. Throughout this long period of official life he commanded an extensive practice, attending all the leading families of the counties of Meath and Louth, carrying with him the unceasing and heartfelt esteem of all classes of the community; beloved by the poor, the welcome guest at all times of the rich, and respected by all for untiring professional zeal, urbanity, and kindness in every relation of life, and unbounded hospitality. By his younger and more humble professional brethren he was regarded as a friend always kind and ready to assist, at all times compassionate and willing to make allowance for those less fortunate than himself. As a surgeon he displayed great manipulative dexterity, and combined the talents of a sound surgical opinion and a successful operator. At the completion of his fiftieth year of office as surgeon to the infirmary, the governors presented him with a handsome address and purse with six hundred sovereigns, in appreciation of his long and arduous services. He obtained a Fellowship of the Royal College of Surgeons in Ireland in 1826, and for many years held a seat on its Council. He was also surgeon of the County Louth Militia. In the removal of Robert Pentland from the list of Irish provincial surgeons they have lost an accomplished ornament and a kind and generous friend.

Medical News.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Aug. 28th:—

Foreman, Joseph, Wigan.
Hardwicke, Edward Arthur, Rotherham.
Hibberd, Henry Jukes, Westbourne-place, Harrow-road.
Jackson, William, Leamington.
Keyworth, George Hawson, Wellingley, near Rotherham.
Lakin, Charles, Leicester.
Lambert, John, Farsley, near Leeds.
Tomes, Arthur, Caughton, Warwickshire.

The following gentlemen also on the same day passed their Primary Professional Examination:—

Henry Caddy, Donald Elcum, and William Allason Simmonds, Guy's Hospital; James Henry Turtle, London Hospital.

A WATER FAMINE is said to exist in the Staffordshire Potteries.

LUNACY IN IRELAND.—From a recent return it appears that there are 7187 persons confined in the various lunatic asylums in Ireland.

VIENNA EXHIBITION.—Messrs. Salt and Co., of Birmingham, have been awarded a medal of merit for surgical instruments exhibited by them.

PAUPERISM IN ENGLAND AND WALES.—In June last the number of persons in receipt of parish relief was 777,725, being considerably less than the number in 1872.

VACCINATION AWARDS.—Mr. John H. Wraith, public vaccinator for the Darwen district of the Blackburn Union, has received the Government grant of £31 14s. 8d.; and Mr. Henry Hamilton, of Chilham, £3 6s. 8d., for successful vaccination in their respective districts.

THE PUBLIC HEALTH ACT, 1872.

[In the following list the letters "P.S.D." signify Port Sanitary District, "R.S.D." Rural Sanitary District, and "U.S.D." Urban Sanitary District.]

Districts, and Medical Officers.	*Salary per ann.*	*Area in Acres.*	*Population.*
Alcester: Evesham, Stratford-on-Avon, R.S.D.s; Evesham, Stratford-on-Avon, U.S.D.s (combined.)—Mr. G. H. Fosbroke, jun.	£600	175786	56148
Askern, U.S.D.—Mr. Frederic T. Hindle	£10 10s.	763	437
Auckland, R.S.D.—viz.:			
Division No. 1—Mr. Richard T. Manson... ...	£50		
„ No. 2—Mr. William B. Kilburn ...	£50	59303	69153
„ No. 3—Dr. Valentine Hutchinson ...	£50		
Barrow-in-Furness, U.S.D.—Dr. Joseph Allison	£105	14937	30000
Belper, R.S.D.—viz.:			
Belper Division—Mr. Josiah Allen...	£150	21712	18096
Wirksworth Division—Mr. Edward Gaylor ...	£150	31799	16329
Berwick-on-Tweed, R.S.D.—Dr. Colville Brown...	£70	42770	8177
Bingley: Haworth, Oakworth, Oxenhope, Keighley, U.S.D. (combined.)—Mr. J. Milligan	£200	33534	25507
Bramley, R.S.D.—Mr. John C. Clarke	£15	993	3448
Bulkington, U.S.D.—Mr. Edwin Peacock	£12 10s.	4793	1653
Carlisle, R.S.D. } Dr. Robert Elliot ... ... Carlisle, U.S.D. }	£120 / £150	...	31000
Castle Ward, R.S.D.—viz.:			
Newburn Division—Mr. Robert S. Davison ...	£32	9374	5971
Stannington Division—Mr. Dan. Carmichael	£7	10316	1045
Stamfordham „ Mr. Robert Torrance	£10	26278	2345
Ponteland „ Mr. James Marr ...	£31	41950	5102
Chester: Tarvin, Wirrall, R.S.D.s; Chester: Neston and Parkgate, Tarporley, U.S.D.s—Dr. George A. Kenyon	£600	130869	74327
Chilvers-Coton, U.S.D.—Mr. Edwin Peacock ...	£12 10s.	4136	2647
Cranbrook, R.S.D. — combined with Bromley R.S.D. and others.			
Dawlish: Wolborough, U.S.D.s; Newton Abbot, R.S.D.—Mr. Leo. Armstrong	£400	112807	35289
Downham Market, U.S.D.—Mr. Thos. G. Wales...	£20	853	2752
Dunmow: Linton, Newmarket, Risbridge, Saffron Walden, R.S.D.s; Newmarket, Saffron Walden, U.S.D.s—Dr. W. Armistead	£700	334130	101124
Evesham, R.S.D. } combined with Alcester R.S.D. Evesham, U.S.D. } and others.			
Grantham: Newark, Sleaford, R.S.D.s; Grantham: Little Gonerby, Newark-upon-Trent, Ruskington, Sleaford, U.S.D.s—Dr. Alfred Ashby	£650		
Guildford, R.S.D.:			
Horsley Division—Mr. Joseph H. Sutcliff (£10 & 10s. 6d. for each inspection of nuisance.)		7161	1531
Halstead, R.S.D.—viz.:			
Castle Headingham &c. Division } Mr. Edward Andrews	£60	18879	7533
Halstead &c. Division—Dr. James Hinds ...	£60	17809	10920
Haverfordwest, R.S.D.—viz.:			
Fishguard Division—Mr. Wm. D. Wathen ...	Fees, according to services.	50092	7410
Haverfordwest „ Mr. Thos. H. Rowe ...		40059	4786
Milford „ Mr. George Griffith ...		36186	6115
St. David's „ Mr. J. Howell		44524	6685
Haworth, U.S.D.—combined with Bingley U.S.D. and others.			
Henstead, R.S.D.—Mr. John B. Pitt	£60	41986	10731
Ipswich, P.S.D. } Mr. George S. Elliston ... Ipswich, U.S.D. }	£25 / £125	8450	44000
Keighley, R.S.D., combined with Bingley U.S.D. and others.			
Leamington, U.S.D—Mr. Joseph S. Bayly	£50	1754	20917
Linton, R.S.D.—combined with Dunmow R.S.D. and others.			
Little Gonerby, U.S.D.—combined with Grantham R.S.D. and others.			
Llanidloe-, U.S.D.—Mr. I. R. Shiels	£20	611	3426
Ludlow, U.S.D.—Mr. Henry Meymott	£25	280	5087
Maidstone, R.S.D. — combined with Bromley R.S.D. and others.			
Maldon, P.S.D.—Mr. Edwin P. Gutteridge... ...	Not fixed		
Neston and Parkgate, U.S.D. — combined with Chester R.S.D. and others.			
Newark, R.S.D. } combined with Grantham Newark, U.S.D. } R.S.D. and others.			
Newmarket, R.S.D. } combined with Dunmow Newmarket, U.S.D. } R.S.D. and others.			
Newton-Abbot, R.S.D.—combined with Dawlish R.S.D. and another.			
Newton and Llanidloes, R.S.D.—viz.:			
Llanidloes Division.—Mr. Wm. A. Davies ...	£25	62965	5387
Llanwnog „ Dr. William Parry ...	£25	37829	4894
Newtown „ Dr. William Pratt ...	£30	30489	3301
Oakworth, U.S.D.—combined with Bingley U.S.D. and others.			
Oxenhope, U.S.D.—combined with Bingley U.S.D. and others.			
Risbridge, R.S.D. — combined with Dunmow R.S.D. and others.			
Ruskington, U.S.D. — combined with Grantham R.S.D. and others.			
Rye, R.S.D.—viz.:			
Division No. 1.—Mr. John A. Woodhams ...	£20	16786	6495
„ No. 2.—Dr. Charles Harris	£25	13641	3547
„ No. 3.—Mr. Robert V. Skinner ...	£15	7503	1893
Saffron Walden, R.S.D. } combined with Dunmow Saffron Walden, U.S.D. } R.S.D. and others.			
St. Columb, U.S.D.—Mr. William Moorman ...	£10	120	1113
Skirlaugh, R.S.D.—Mr. Charles Soloman ...	£50	39850	8093
Sleaford, R.S.D. } combined with Grantham Sleaford, U.S.D. } R.S.D. and others.			
Staines, U.S.D.—Mr. Albert Curtis	£25	1821	3639
Stratford-on-Avon, R.S.D. } combd. with Alcester Stratford-on-Avon, U.S.D. } R.S.D. and others.			
Swansea, P.S.D.—Mr. Ebenezer Davies (*pro tem.*)	Not fixed		
Swinton and Pendlebury, U.S.D.—Mr. Shearman	£50	2166	18000
Tarporley, U.S.D.—combined with Chester R.S.D. and others.			
Tarvin, R.S.D. — combined with Chester R.S.D. and others.			
Tenterden, R.S.D. } combined with Bromley Tenterden, U.S.D. } R.S.D. and others.			
Tonbridge, R.S.D. } combined with Bromley Tonbridge, U.S.D. } R.S.D. and others.			
Upton-on-Severn, R.S.D.—Mr. John S. Cowley ...	£100	47111	16983
Whitby, R.S.D.—viz.:			
Whitby Division.—Mr. John Taylerson... ...	£35	26216	3565
Wirrall, R.S.D. — combined with Chester R.S.D. and others.			
Wolborough, U.S.D. — combined with Dawlish U.S.D. and another.			

THE ADULTERATION OF FOOD ACT, 1872.

ADDITIONAL APPOINTMENTS.

Districts.	*Analysts.*	*Salaries &c.*
Abingdon	W. F. Donkin, M.A., F.C.S.	20s. per analysis; 21s., and 3d. per mile going and returning, for attending as a witness; £2 12s. 6d., for each statutory report.
Buckinghamshire ...	Mr. J. Alfred Wanklyn ...	20s. per analysis; 21s., and 3d. per mile going and returning, for attending as a witness; £2 12s. 6d., for each statutory report.
Carlow, County	Chas. A. Cameron, M.D. ...	£25 per annum.
Cork, City	Mr. C. O'Keefe	£50 per annum, and 5s. per analysis.
Cornwall	Mr. Joseph Hy. Collins ...	Fees.
Dublin, City	Chas. A. Cameron, M.D. ...	£300 per annum.
Edinburgh, City	Mr. I. Falcone King ...	Fees, and 10s. 6d. per hour for attendance as a witness.
Greenwich	Mr. George W. Wigner... ...	£100 per annum.
Ipswich	John Wiggin, F.C.S. ...	£25 per annum, and 10s. per analysis for first 50, and 5s. per analysis beyond.
Kent	Henry Letheby, M.B. ... C. Meymott Tidy, M.B.	Fees.
Kerry	Chas. A. Cameron, M.D. ...	£25 per annum.
Leeds	Thos. Fairley, F.C.S. ...	£100 per annum.
Limehouse	G. A. Rogers, M.R.C.S. Eng.	£150 per annum.
Louth	Richd. Domenichetti, M.D.	£5 5s. per annum, and 10s. per analysis (qualitative).
Middlesex	Prof. Theophilus Redwood.	
Mile-end Old Town ...	Matthew Corner, M.D.... ...	Not fixed.
Monmouth, Borough...	Mr. Edward H. Jones	10s. per analysis.
Nottingham, Borough.	Edgar B. Truman, M.D.	From 10s. 6d. to £2 2s. per analysis.
Portsmouth	Geo. Turner, L.R.C.P. Lond.	£50 per annum.
Reading...	John Shea, M.D., B.A....	£15 per annum, and fees, not fixed.
Rotherhithe	Dr. John Muter	From 2s. 6d. to 10s. 6d. per analysis.
St. George-in-the-East.	John J. Rygate, M.B.	
St. Martin-in-the-fields	Prof. Alfred G. Anderson ...	£100 per annum.
St. Matthew, Bethnal-green	Thomas Sarvis, M.D.	
Southamptonshire, Main Division ...	Alex. W. Bickerton, F.C.S.	20s. per analysis up to 100, and 10s. per analysis beyond.
Southamptonshire, Isle of Wight ...	Arthur H. Hassall, M.D.	

Districts.	*Analysts.*	*Salaries &c.*
Staffordshire, South Division	Mr. Edward Wm. T. Jones	£100 per annum.
Staffordshire, North Division	Mr. Wm. Lascelles Scott	£100 per annum for six months.
Strand	Mr. Charles H. Piesse	£100 for one year.
Sussex, East	Henry Letheby, M.B. C. Meymott Tidy, M.B.	First 100 analyses, one guinea each; second 100 analyses, half a guinea each; each analysis afterwards, 6s.
Sussex, West	Francis V. Paxton, M.B.	£1 1s. per analysis for first 100; 10s. per analysis for next 50; 6s. per analysis for all succeeding in the same year.
Wicklow, County	Charles A. Cameron, M.D.	£25 per annum.
Wigan	Mr. Ralph Betley	£30 per annum.
Worcestershire	A. E. Davies, Ph.D., F.C.S., F.L.S.	£100 per annum and fees.

Medical Appointments.

ARMSTRONG, G. W. F., M.D., has been appointed Medical Officer to the Workhouse, Castletown Union, Co. Cork, vice Lewis.

BLAKE, Dr., has been appointed Medical Officer, Public Vaccinator, and Registrar of Births &c., for the Spiddal Dispensary District of the Galway Union, vice Cronin, resigned.

COX, E., M.R.C.S.E., has been appointed Medical Officer to the Bideford District of the Bideford Union.

COX, W. A., M.R.C.S.E., L.M., of Sutton, Surrey, has been appointed Surgeon to the Sutton District of the London, Brighton, and South Coast Railway Provident Society, and to the Sutton Lodge of Female Rechabites.

EVANS, R. W. J., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed House-Surgeon to the Wrexham Infirmary and Dispensary, vice Hughes, resigned.

FALL, J., M.R.C.S.E., has been appointed Medical Officer for the Winfrith District of the Wareham and Purbeck Union, vice Parmiter, deceased.

GRAHAM, F. B., L.R.C.S.Ed., has been appointed Medical Officer to the Workhouse, and Medical Officer and Public Vaccinator for the Low District of the Longtown Union, Cumberland, vice W. Graham, L.R.C.S.Ed., resigned.

GRANT, P. M., M.B., C.M., has been appointed Resident Physician to the Royal Hospital for Sick Children, Edinburgh, vice Spence, resigned.

HINDLE, F. T., L.R.C.P.L., has been appointed Medical Officer for District No. 5 of the Hemsworth Union, Yorkshire.

HIRONS, G. M., L.R.C.P.Ed., L.R.C.S.Ed., has been appointed Resident Surgeon to the General Dispensary, Bournemouth, vice Douglas, resigned.

HODGES, F. H., L.R.C.P.Ed., M.R.C.S.E., has been appointed House-Surgeon to the Leicester Infirmary and Fever House, vice E. S. Lee, M.R.C.S.E., resigned.

HUGHES, J. H., L.R.C.P.L., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Ombersley District of the Droitwich Union, vice Waters, resigned.

HUNT, W. J., M.D., F.R.C.P.Ed., L.R.C.P.L., has been appointed an Assistant-Physician to the Metropolitan Free Hospital, vice Chapman.

LYNE, D. J., L.R.C.P.Ed., has been appointed Medical Officer, Public Vaccinator, and Registrar of Births &c., for the Kilcatherine Dispensary District of the Castletown Union, Co. Cork, vice Lewis.

M'GREGOR, J., M.B., C.M., has been appointed Medical Officer and Public Vaccinator for the Parish of Harris, Inverness-shire, vice Murchison, resigned.

M'KAY, C. G., M.B., C.M., has been appointed Parochial Medical Officer and Public Vaccinator for Lochcarron, Ross-shire, vice Macdonald.

MARSHALL, H. F., M.B., M.R.C.S.E., has been elected Medical Officer and Public Vaccinator for the Dertend or No. 2 District of the Aston Union, vice Orford, resigned.

MESSER, T. J. F., M.D., has been appointed Medical Officer to the Helensburgh Prison, vice Skene, deceased.

MILWARD, Mr. W. C., has been appointed Assistant House-Surgeon to the West Sussex, East Hants, and Chichester General Infirmary and Dispensary, vice Barnard, resigned.

MINORS, E., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Rolvenden District of the Tenterden Union, vice Joyce, resigned.

MOLLOY, M. H., L.K.Q.C.P.I., M.R.C.S.E., has been appointed Medical Officer to the Workhouse, Manorhamilton Union, Co. Leitrim, vice Davis, resigned.

MORRIS, W., M.R.C.S.E., has been appointed Medical Officer for District No. 2 and the Workhouse, Petworth Union, vice Shout, resigned.

MORTON, Dr., has been appointed Medical Officer of Health for Guildford.

PINCHING, C. J. W., M.R.C.S.E., has been appointed Registrar and Chloroformist to the Evelina Hospital for Sick Children, Southwark-bridge-road.

SHAW, J., L.R.C.S.I., L.K.Q.C.P.I., has been appointed Medical Officer to the Riverstown Dispensary District of the Sligo Union, vice Burrows, resigned.

SUTCLIFFE, J. H., M.R.C.S.E., has been appointed Medical Officer to the Modern Order of Foresters, East Clandon, Surrey.

TURNER, H., M.R.C.S.E., has been appointed Medical Officer for the Spotland District and the Workhouse of the Rochdale Union, vice Coventry, resigned.

TYTLER, P., M.B., C.M., has been appointed Assistant Medical Officer at the Crumpsall Workhouse, Manchester, vice Kenyon, resigned.

WILLING, G. F. B., L.R.C.P.Ed., M.R.C.S.E., has been appointed Certifying Surgeon, under the provisions of the Factory Act, for Great Wakering, Shoeburyness, and Leigh, Essex.

WRANGHAM, J. D., M.D., has been appointed Medical Officer for the Hainton District of the Louth Union, vice Baker, deceased.

Births, Marriages, and Deaths.

BIRTHS.

ARMSTRONG.—On the 25th ult., at Plymouth, the wife of Surgeon-Major Armstrong, 16th Regiment, of a daughter.

CRIBB.—On the 24th ult., at Bishops-Stortford, the wife of Henry Cribb, L.R.C.P.L., of a son.

MEREDITH.—On the 31st of July, at Pooree, Bengal, the wife of John Meredith, M.D., of a daughter.

MURRAY.—On the 29th ult., at Tenbury, the wife of W. B. Murray, M.D., of a daughter.

ORTON.—On the 27th ult., at Lower Phillimore-place, Kensington, the wife of G. H. Orton, M.B., of a son.

WARD.—On the 27th ult., at Northbourne, Chobham, the wife of Dr. Ward, of a daughter.

WORSLEY.—On the 29th ult., the wife of John Worsley, of Preston, of a son.

MARRIAGES.

JONES—COWGILL.—On the 27th ult., at the Parish Church, Bradford, Wm. Oram Jones, M.R.C.S.E., of Shipley, Yorkshire, to Martha, younger daughter of Wm. Cowgill, Esq., of Manor-row, Bradford.

SLIMON—CRONDACE.—On the 12th ult., at St. Mary's, Putney, George C. Slimon, M.D., to Ellen Elizabeth, elder daughter of the late George Crondace, M.R.C.S.E., of Durham.—No Cards.

STEWART—FRASER.—On the 26th ult., at Stirling, Wm. Stewart, M.D., Surgeon-Major 21st Regiment, to Agnes, daughter of P. S. Fraser, Esq.

WILSON—WHITFIELD.—On the 3rd inst., at the Old Meeting House, Wm. Wright Wilson, M.R.C.S.E., eldest son of Joseph Wilson, of Acock's-green, to Emily Sarah, youngest daughter of Samuel Whitfield, of Golden Hillock.

DEATHS.

BOWER.—On the 24th ult, Robt. Bower, F.R.C.S.E., of Southport, formerly of Rochdale, aged 70.

EVANS.—On the 30th ult., George Fabian Evans, M.D., of Birmingham, aged 75.

LOWRY.—On the 19th of July, at Kulladghee, Bombay Presidency, John R. C. Lowry, M.B., aged 28.

MARSH.—On the 31st ult., at Newark-on-Trent, John Marsh, M.R.C.S.E., aged 54.

MILLER.—On the 29th ult., at Southsea, John Miller, M.D., Inspector-General of Hospitals, retired list.

SHEPARD.—On the 30th ult., at Ty Cornel, Usk, Rose Aimé, infant daughter of A. J. Shepard, Surgeon, aged 11 days.

WHEATCROFT.—On the 30th ult., at Hednesford, Staffordshire, Thos. Chas. C. Wheatcroft, M.R.C.S.E., in his 30th year.

Notes, Short Comments, and Answers to Correspondents.

THE STUDENTS' NUMBER OF THE LANCET will be published on Saturday next, Sept. 13th. Those gentlemen holding official situations connected with Medical Institutions in the United Kingdom, who have not yet forwarded the necessary information to our Office for publication in that Number, are earnestly requested to send it *without the delay of a single post.*

COOPER'S SALTS.

Health Officer (Bradford), and other correspondents who wish to be informed on the above subject, will find that the salts possess the property of attracting moisture from the atmosphere, and retarding evaporation of water, and that, consequently, by their mixture with water in the water-cart, and distribution upon the road when the dust is laid, the road is kept moist for a much longer time than when watered with plain water. The salts prevent all unpleasant smell from horse-droppings or any decomposing animal or vegetable substances on roads. Not only so, but they prevent the formation of sewer gas, which is caused by fermentation of the sewage passing through the conduits. The salts prevent fermentation of the urea, and the consequent decomposition of the sewage and the evolution of the noxious gases. Mr. W. J. Cooper brought these facts before the British Association at Brighton last year, and at the Social Science Congress at Plymouth; and since then their practical efficacy has been proved at Flimby, in the Cockermouth district, where small-pox was raging, as well as at Richmond. The salts are a combination of common salt and the chlorides of calcium and magnesium.

Dr. Mackintosh (Norfolk) is thanked. The matter shall be noticed.

THE OIL OF THE ARACHIS HYPOGEA.

To the Editor of THE LANCET.

SIR,—I can vouch for the oil of the Arachis hypogea not being poisonous. For some years, when patients of mine, either from dyspepsia or other cause, have been unable to take the cod oil, I have prescribed this ground-nut oil, it being pleasant to the palate and very easy of digestion. Children invariably like it, and improve in health while taking it. Combined with arsenic, I have found it a very useful remedy in impetigo, eczema, and other skin diseases, at the same time as the simple oil was applied externally. I have never known it disagree with anyone. I take it myself with salad. It is not expensive, and keeps sound any reasonable time.—Yours obediently,

Colchester, August 4th, 1873. HENRY FINCH, M.D.

SCURVY.

EIGHTEEN Norwegians, separated in September last from their ship on the northern shores of Spitzbergen, were forced to winter at a place on the shore called Mitterbuk, where they were all found, a few weeks ago, dead by Captain Mack, who was sent in quest of them. They had no lack of food—of a kind,—as biscuit was found beside them; but they wanted vegetables, and, scurvy setting in, they languidly crowded over the fire, and so died one by one. Want of provisions might have proved their salvation; for men cast ashore at Spitzbergen immediately set about scraping antiscorbutics from under the snow, and keep up the circulation in hunting wild animals, whose warm blood when drunk also prevents scurvy, and whose furs supply clothing. SIX Dutchmen a good many years ago wintered at Spitzbergen in this way, and survived. They were wiser in their generation, however, than the unfortunate Norwegians, who perished (as did also a second crew from Holland, who wintered there before them) by neglecting the pursuit of wild beasts and antiscorbutics, and shivering before the fire in their hut.

A Constant Reader, (Ruthin.)—Those by Professor Parkes and Dr. Wilson.

ENCEPHALITIS, WITH PARALYSIS OF SAME SIDE; DEATH.

To the Editor of THE LANCET.

SIR,—J. W. W——, aged five years and eight months, on May 31st was slapped three times on the back with the open hand, not violently. He at once was seized with bellyache and weakness of the legs, and had to sit down. For fourteen days he was troubled with vomiting, headache, and pain in the back and belly. I saw him first on June 19th. He had been confined to his bed some time. He had the use of all his limbs; but convulsive twitchings of the right side came on occasionally, and the abdominal muscles became rigid and painful when he was stirred. He was light-headed, and had bad nights. Skin dry, not hot; pulse small, but slow.

The next five days he seemed to be improving under treatment; but on June 24th I found him lying quite unconscious; pulse 64, full; eyes strongly turned to the left; both pupils dilated. He kept picking the bedclothes with the left hand; otherwise he lay quiet. This day and the two next he passed urine &c. in bed, seemed conscious at intervals, but never spoke. He moved his left hand incessantly, and at times the left leg.

June 26th.—Both eyes now squinted inwards; pupils still dilated; pulse small, very quick; breathing quick.

27th.—For the first time I found sweat on the skin, which had never been hot; pulse imperceptible; pupils dilated, looking forwards.

28th.—3.30 P.M.: Bowels not opened since the 25th; head hot; skin sweating; total paralysis of right side. He still moved his left arm, and the left foot answered to irritation. No power to swallow since the evening before. The right pupil was still fully dilated; but the left now answered to light. There was no squinting. At times he seemed conscious. The breathing was quick and panting; the heart-strokes weak, too quick to count.—6.10 P.M.: Died quietly.

Autopsy, thirty-eight hours after death.—Rigor mortis marked. Both pupils were now of normal size; conjunctivæ pale. Arteries of body all empty. Calvaria healthy. Dura mater pale; all the sinuses empty. The arachnoid was dry, slightly injected, mostly at left side. Left hemisphere of brain: Grey matter much injected; white matter pale, firm, and healthy. More than half an ounce of cloudy serum escaped when the ventricle was opened. Right hemisphere: Grey matter less injected than on left side; the white matter of the posterior lobe was nearly as soft as cream, disorganised, but with no effusion of blood. About an ounce and a quarter of turbid serum escaped from the right ventricle, containing large flakes of lymph and apparently broken-down masses of the white brain-matter. The lining membrane, thickly coated externally with lymph, floated loose. There was lymph also on the corpus callosum. The right thalamus opticus was softened. The cerebellum was healthy, and there was no fluid in the fourth ventricle. The pons Varolii to the unaided eye seemed quite healthy. The medulla oblongata on the right side had some slight injection about the olivary body. About an inch of the spinal cord was examined. There was injection down the whole of the right half. Lungs healthy, but congested at back. No fluid in pleuræ. Heart firm, contracted, empty; about a teaspoonful of serum in pericardium. Stomach pale and empty. Intestines pale, with some flatus and fæces. Spleen and liver healthy. Bladder empty. No visceral adhesions whatever.

The slight cause for such a fatal result in a fine healthy child, the fact of the paralysis and lesion being on the same side, and that there was a healthy space (i. e., the pons Varolii) between the concussed brain and inflamed cord (showing that the two lesions must have arisen independently from the same blow), seem to render this case worthy of publication.

I remain, Sir, yours truly,

Fenny Stratford, Bucks, August, 1873. R. J. CARRY, M.A. Cantab.

Mr. Arthur Hands, (Wolverhampton.)—Paragraphs of the kind are, no doubt, open to grave objection; but we are bound to say that they are commonly inserted without the knowledge of the person most concerned.

Dr. Heslop (Birmingham) is thanked for his courtesy.

RETURNS OF MORTALITY.

To the Editor of THE LANCET.

SIR,—I shall esteem it a favour if you will give me space to ask some of my brother health officers at what rate the registrars are remunerated in the districts for which they act. The sanitary authorities for the district for which I am officer of health have offered (according to the suggestion of the Local Government Board) *twopence* for *every* death returned, the forms being supplied by the sanitary authority. The deaths are returned with the usual details; but at the foot of the paper the *number* of males and females born is also noted, without any further detail as to the births. The registrars have, however, declined this remuneration, and demand *threepence* for each death returned, and *one shilling for every paper sent in*. As there are three registrars, and about 800 deaths in the year, the returns for this town of some 35,000 inhabitants, would cost the large sum of £17 16s., the returns being made weekly. I believe such a demand on the part of the registrars is quite unprecedented; but I should be glad to have some data on the subject from other officers.—I am, Sir, yours, &c.,

August, 1873. A MEDICAL OFFICER OF HEALTH.

M. O. H.—1. An urban sanitary authority can make bye-laws so as to prevent animals being kept in a manner injurious to health, and animals so kept as to be a nuisance or injurious to health are a nuisance under the Nuisance Removal Act. The case mentioned by our correspondent could be dealt with under bye-laws if in an urban sanitary district, under the Nuisance Removal Act in both urban and rural sanitary districts.—2. Well prepared concrete for the pigstye, we believe; but no material ensures safety from leakage in privy-pits or cesspools.—3. We have no information as to asphalte.—4. Parkes's Practical Hygiene, the fourth edition just published.—5. Healthy Homes, by Mr. William Eassie.

Mr. J. Hopkins, (Llantrissant.)—It is impossible to answer our correspondent's question. They all rank high; but the graduates of the different Universities would probably entertain very different views as to which ranked highest.

Dr. Thomson, (Colchester.)—The communication shall be forwarded.

ON A SINGULAR CASE SHOWING EXACT CORRESPONDENCE OF PULSE AND TEMPERATURE.

To the Editor of THE LANCET.

SIR,—The following observations were taken in 1871 upon a patient in the Seamen's Hospital, Greenwich; and by the courtesy of Mr. Johnson Smith, who was in charge of the case, I have been allowed to use the notes made by me at that time. The history of the case is briefly as follows.

J. H——, aged thirty, a strong, muscular navvy, was admitted into hospital on February 22nd with a compound fracture of the left leg. His progress was slow, but for a time favourable, though he was much pulled down by the excessive discharge from the fractured limb. He had repeated rigors on the 7th, 8th, 10th, 11th, 12th, and 19th March, with a temperature of from 101° to 105·4° Fahr. He improved so much in strength towards the end of March that the limb was amputated through the knee-joint on the 31st, the joint showing signs of commencing disease. He did well for a few days, but sank on the 7th April with all the symptoms of pyæmia. No post-mortem was obtained; but from the character of the sputa and other symptoms during life the lungs probably were extensively involved.

The interesting feature of the case, however, is the exact correspondence kept up between the temperature and the pulse throughout the whole case. The temperature was invariably taken in the axilla, allowing at least fifteen minutes to each observation, at 9·30 A.M. and 8.30 P.M., and in the morning both temperature and pulse were taken about an hour before the leg was dressed.

On Feb. 25th, tincture of aconite, in two-minim doses, was given three times a day, with a continuous fall till the morning of the third day of 4° Fahr. and 40 pulse beats. Quinine was given on March 5th, seemingly without good effect on either temperature or pulse. The rigors were in some instances followed by a rise in both, in others by a fall, and did not seem to mark the initium of any distinct mischief. The operation on the 31st was immediately followed by a noticeable fall, and the case progressed favourably until the morning of the 5th April, when the temperature rose to 105°, and there was severe cough and dyspnœa. Death occurred on the morning of the 7th, with a temperature shortly before of 105·4°; pulse 144; respiration 40.

Table showing correspondence of Temperature, Pulse, and Respiration.

Temperature.		Pulse.		Respiration.
Fahrenheit.		Per minute.		Per minute.
99°	Corresponds to	70		
100°	"	80		
		1st 3 weeks.	2nd 3 weeks.	
101°	"	90	100	
102°	"	100	110	20 to 25
103°	"	110	120	20 to 30
104°	"	120	130	30
105° to 106°	"	130 to 140	140 to 150	35 to 40

This table agrees closely with that given by Dr. Aitken, at page 41, vol. i., of his "Science and Practice of Medicine"; and, further, each tenth of a degree Fahr. corresponds as nearly as possible to one beat of the pulse. I cannot account for the increased frequency of pulse observed during the second three weeks; this is the only point in which the correspondence is not exact throughout. This is, I believe, the most complete individual case of agreement which has yet been published, although, from an average of cases, tables such as that of Dr. Aitken's have been prepared. In the first beautiful chart which is given at the end of "Wünderlich's Medical Thermometry" (Sydenham Society), in a case of enteric fever, the pulse, though following the temperature pretty closely, shows nothing of the complete dependence noticeable in the above case.

Curiously enough, this remarkable correspondence was almost unnoticed at the time of observation until it forced itself visibly upon me when lately preparing a series of pulse charts.

I may add that during the three weeks preceding death the number of respirations per minute was also noted; they also show a certain but irregular correspondence.

Yours truly,

Liverpool, August, 1873. W. MACKIE CAMPBELL, M.D. Edin.

Indophilus, (Ryde.)—Every English official in Bengal—every medical man in particular—should read the great work just printed at Calcutta, entitled "Descriptive Ethnology of Bengal," by Colonel E. T. Dalton, C.S.I., Commissioner of Chutia, Nagpore. It is a splendid quarto of 350 pages, with 37 plates, exquisitely lithographed from the photographs by the Messrs. Hanhart, under the supervision of Dr. George Wallich, of London.

Ignoramus.—No.

Dr. Augustus Hess.—Certainly. Scientific precision is always desirable. The more scientific the language, moreover, the less is it "understanded of the multitude."

C. E. B.—Consult as much as possible the works of the examiners; and on the subject of public health, the work of Dr. Parkes.

W. W.—At Renshaw's, 356, Strand.

Registered would oblige by ascertaining the truth in the case referred to in a private way. The inquiry by letter in our columns is too roundabout for such a delicate matter. We quite agree with our correspondent.

Lex.—Such a title does not justify the plate. The plate violates the Medical Act.

G. M. P.—The question is one which, not having strictly medical bearings, would be more appropriately submitted to an attorney.

THE POLLEN-GRAIN THEORY OF HAY FEVER.

To the Editor of THE LANCET.

SIR,—THE LANCET for last week has only just passed into my hands, or I should have called your attention to a fact perhaps not known outside this town in reference to the claim of originating the "pollen-grain" theory by Mr. Blackley in the disease called hay fever, &c. In year 1870 I read a paper before the Birmingham Queen's Hospital Medico-Chirurgical Society, entitled "Notes on the British Poisonous Plants," and for which the Society awarded me its second "Dixon Prize." In my notes on "Aconite" occurs the following statement:—"It is affirmed by some old writers that the pollen-dust, being blown on to the surface of the eye, has been known to cause pain and swelling. Now this supposed property of the pollen-grains admits of easy explanation. If any pollen-grain becomes an inhabitant of any warm moist place, endosmosis and exosmosis instantly commence, and in a little time the external coat or extine of the pollen is ruptured, and the internal coat or intine is protruded, forming what is known as a pollen tube; the use of these tubes being to ramify through the cellular spaces of the stigma and style of the plant until it reaches the ovary, where it enters or attaches itself to an ovule, and therein discharges its granular contents or fovillum. Now this will happen upon the eye. The moment that the pollen-grain becomes surrounded by the lachrymal secretion, which is constantly washing the surface of the cornea and conjunctiva, a change takes place: the grain enlarges, bursts its extine, protrudes its intine as a tube, and finally, after wandering over the eye for some little distance, the intine or pollen tube bursts, and discharges its fovillum on the surface. These granular contents are even smaller than the red blood-corpuscles; and I think that if the corpuscles can pass out of the small bloodvessels between the so-called epithelial chinks, in like manner the fovillum grains might pass into such small bloodvessels. Of course the presence of these minute filaments or tubes and the granular fovillum on the surface of the eye must be very painful, and a constant source of irritation until removed. My theory, then, of mechanical irritation fully accounts for all the symptoms described by some authors of pain and swelling, and which could no doubt be found to be the case with any kind of pollen-grains; and I have no doubt but that hay fever, so called, is due to the inhalation of pollen-grains, which, settling on the mucous membrane of the nose, eye, bronchial tubes, &c., burst and ramify over the surface, causing intense irritation, and giving rise to febrile disturbance, with the usual train of symptoms and results."

Now, I do not wish to detract for one moment from the value of Mr. Blackley's contribution to science, but simply to state what has actually been published before a scientific society in the provinces, and thus to claim the position of being first to give the true *rationale* of hay fever. Your suggestion as to the benefits of cotton-wool follow as a natural corollary. If Mr. Blackley still imagines that he shall find an antidote, I can only say that prevention is better than cure, and that a cotton-wool respirator made upon Tyndall's suggestion is one of the best mechanical means we possess of filtering the air we breathe; but I do not see at present how we are to get rid of the enemy when it becomes lodged on the surface of the eye, and perhaps Mr. Blackley will be able to find out some means either preventive or antidotal.

Your obedient servant,

Birmingham, Aug. 22nd, 1873. WM. WRIGHT WILSON, M.R.C.S.E.

WE have received a very long communication from *Mr. Alfred Smee, F.R.S.*, on Milk, Putrid Sewage, and Typhoid Fever, the substance of which has mainly appeared elsewhere. We shall, however, have occasion to refer to the subject more fully hereafter.

Query.—The degree cannot be registered. Particulars can be had from the University.

GALVANISM IN POST-PARTUM HÆMORRHAGE.

To the Editor of THE LANCET.

SIR,—The following case may be considered of interest to the profession as furnishing a mode of treatment for the great opprobrium of the obstetric art, which, if not new, is far from being so widely employed as its numerous advantages would appear to indicate.

On June 24th, 1873, I was sent for to see a patient in labour, suffering from puerperal convulsions. The convulsions came on during the first stage of labour, and could only be checked by keeping her under the influence of chloroform for some time. Failure of uterine action occurred before the os uteri was fully dilated; but, as it was sufficiently dilatable, the forceps was introduced, and delivery accomplished. Still the uterus did not contract, and, after the placenta was removed, hæmorrhage could only be restrained by keeping the hand within the uterus. Grasping and kneading the uterus, cold affusion externally, and injections of cold water per vaginam produced no effect. A dilute solution of perchloride of iron was freely injected into the uterus, but proved ineffectual. My assistant, Dr. Macintosh, then procured for me at my request one of Stöhrer's portable coil machines. An interrupted current of considerable intensity was directed through the uterus, one pole of the battery being applied over the abdominal walls directly over the fundus by means of a curved plate of copper, and the other placed in the cervix. Almost immediately firm contraction took place, and when the current was discontinued the uterus remained securely contracted. The patient made a good recovery.

To those who have witnessed as I have done the confusion and other disagreeable accessories of a case of obstinate hæmorrhage after labour, any means that tend to diminish these inconveniences must be most acceptable. The use of galvanism as a means of treatment in these cases, besides its remarkable efficiency as shown by this case, possesses many other advantages over the means usually employed; for instance, its cleanliness, the simplicity of its mode of application, and the avoidance of those evil consequences in the puerperal state which are so apt to result from irritation of the uterus by injections, such as that of the perchloride of iron.

Yours obediently,

Doncaster, August, 1873. ROBERT STOKES, M.R.C.S.

X. Y. Z.—It would perhaps be rash to assert that a case could never arise in which a course such as that suggested would be justifiable. But it would have to be a case of great urgency. For a fuller exposition of our views on the matter our correspondent may refer to THE LANCET of Aug. 3rd, 1872.

LIGHTNING STROKE.

To the Editor of THE LANCET.

SIR,—In THE LANCET of June 28th of this year there is a case of "Lightning Stroke" reported, which bears some resemblance to the following case which occurred in my own practice. The symptoms, however, in Dr. Wilson's case were more severe, and the evidence of the electric current having passed through the body were unequivocal.

——, aged twenty-three, dispenser, whilst sitting in the surgery near the window during a violent thunderstorm, was struck by a very vivid flash of lightning, which had the following effect on him:—He jumped up from his chair, rubbing his eyes violently, and exclaimed, "I can't bear this"; he then staggered back against the wall, and nearly fell down. After a few seconds of apparent unconsciousness he was well enough to wash his hands and walk home, a distance of about 200 yards. His landlady told him that he looked very pale and ill, and he said that his head ached very severely, and that he felt very weak in the right side. When I saw him about an hour after the accident, I found that his right arm and leg were almost completely paralysed, and that he could not see with the right eye. He complained of severe pain in the right side of the head, with a feeling of numbness all down the right side of the body. He was put to bed, and cold lotions applied to the head. He passed his urine without difficulty. The accident occurred about 6 P.M. on April 16th.

During the next day he lay quiet and comfortable, and took a fair amount of nourishment.

April 18th.—Has nearly lost the pain in the head; paralysis passing off, so that he can raise the right arm and leg slightly; can see with right eye.

19th.—10 A.M.: Improved in every way; can grasp the hand with moderate force with his right hand, and can raise the whole arm slightly; the right eye still weak, but can see clearly; slight pain in the head remains.—7 P.M.: I was sent for in great haste, his landlady saying he was in a fit. I found him lying in a semi-conscious state, rolling his head from side to side, and calling out the names of some of his friends. The right arm and leg were violently convulsed, and there was slight tremulous movement of the left arm; the pulse was very weak and irregular, at times scarcely perceptible; the surface of the body pale and cold. He remained in this condition for nearly two hours, when the convulsive movements gradually ceased, and left him very weak and exhausted, and only partially conscious.

20th.—9 A.M.: Has remained quite quiet through the night, and seems conscious this morning, though drowsy and complaining of headache; pulse 85, weak, but quite steady and regular. His symptoms were so alarming last night that his friends had been telegraphed for from a distance.—9.30 P.M.: No return of convulsive movements; pulse 85, regular; can move right arm and leg much more freely; feels very weak, but does not complain of pain; has taken a little light nourishment.

21st.—9 A.M.: Has had a quiet night; can move right arm and leg quite freely; still complains of headache and occasional spasmodic twitchings of arm; can see perfectly well with right eye.

25th.—Has improved in every way. Now convalescent, with the exception of slight "dragging" of the right leg whilst walking.

May 20th.—Has been away to the sea-side for three weeks, and has now resumed his duties. He still feels a little weak, and walks slightly lame with the right leg.

July 12th.—Says that he feels quite well again, and does not find any weakness in the right side.

No treatment was adopted in this case beyond cooling lotions for the head, and a stimulating liniment for the affected side. He took some steel and mineral acid tonic during his convalescence. There is no history of any epileptiform attacks occurring previously.

I remain, Sir, yours truly,

Witney, Oxon, August, 1873. C. DORRINGTON BATT, M.B.

Nemo.—The aim contemplated by the framers of the Medical Act was, not directly to put an end to quackery, but to enable the public to distinguish between qualified and unqualified practitioners.

C. S. I. is thanked for his letter. The suggestion is a good one, and shall not be lost sight of next year.

GRATUITOUS MEDICAL ADVICE.

To the Editor of THE LANCET.

SIR,—It does appear preposterous that such announcements as the following should appear week after week in the papers. In this day's *Standard*, August 26th, 1873, it is declared that at the British Hospital for Diseases of the Skin 285 patients were relieved during the week ending August 23rd. At the foot of the same page we read: "Metropolitan Free Hospital, Devonshire-square, City. The aggregate number of patients relieved during the week ending August 23rd was—medical, 1156; surgical, 819; total, 1975; of which 902 were new cases." What a robbery of the medical profession is here announced. What would the brewers say if the same number of people had been supplied with beer for which they were not paid? What would the lawyers say if the same amount of legal advice had been given without being paid for? Here we find at two institutions alone 2360 persons treated gratuitously, who could be, as the lawyers say, "assisted by friends" if they could not immediately find funds for themselves to pay the doctor. During the year of fifty-two weeks, taking the payment for each of those persons at the very low sum of one shilling per week, £5876 might be realised. They spend much more than that in beer, and they and their friends mulct the medical profession to that extent at least. Do the medical profession ever pay any attention to figures? Are they wholly regardless of the value of what all the world besides pays some attention to—viz., pounds, shillings, and pence? How easily, with a little exertion as "a body," might the phrase "poor doctor" be reversed! If doctors themselves like to throw away their labour, what do their wives and families say to the question? There is something very radically wrong about this indiscriminate medical charity; it is a shameful robbery perpetrated upon the medical world, and it behoves doctors of every grade to attend to it; it is a barefaced and increasing evil.

Yours truly,

August, 1873. M.D.

A Country Practitioner.—A medical man is not compelled by law to supply to the registrar information as to the death of a patient whom he has attended in his last illness unless especially requested to do so within eight days after such death.

Students.—Our next number will contain the information desired by our correspondent.

THE MEDICAL COLLEGE, EPSOM.

To the Editor of THE LANCET.

SIR,—I should not reply to "A Present Epsomian's" letter but for his bold language, "Now this is false." I must, however, thank him for so innocently (I presume) helping those who complain of the diet at Epsom.

1st. He says: "As far as I remember, members of the Council visit the hall quite as much as formerly." He, however, speaks doubtfully.

2nd. As to vegetables, the list is enough to make a vegetarian's mouth water; but my questions remain unanswered.

3rd. Now comes the *bouns bouche*: "There has always been a dislike shown to the cocoa by those who drink milk, which, as provided at the College, is not so good as the cocoa, and this may be accounted for by the fact that the urns in which it is placed have a disagreeable remnant of tea left from the previous night." I only asked a question as to the compound called cocoa; but here comes a new grievance—*Epsomian milk*, complained of even by "A Present Epsomian" himself, composed of milk flavoured with a disagreeable remnant of tea left in the urns from the previous night. I now ask another question: Is the College too poor to be able to afford separate vessels for the milk? If so, surely they can have the urns washed out before the milk is put in.

4th. "I have never known the bread soaked; and even if it were so, this I scarcely believe was with the consent and knowledge of the authorities." Again "A Present Epsomian" speaks doubtfully.

Now he speaks positively; and in reply to the question of punishment for leaving food, says, "Now this is false." With the exception of the "Epsomian milk," your correspondent has always spoken doubtfully; but in a matter which is well known throughout the school to exist he gives the strongest denial. Let him ask Dr. West how often he has kept the boys in for leaving food, and how often stopped their pocket-money for the same, and let us have the reply. He will find my questions were not asked in ignorance of what was going on at Epsom.

I cannot believe that punishing a boy for leaving food is the way to prevent waste. In every household we know how appetites differ: one cannot eat fat, another underdone, another overdone. In a large establishment I can well believe it is impossible to study the tastes of all; but surely it is better for a boy to leave what at the time is loathsome to him than to eat it and add to his sickness or discomfort.

I am, Sir, yours truly,

Bocking, near Braintree, Aug. 26th, 1873. THOS. TAYLOR.

ERRATUM.—In the notice in our last number of the marriage headed "Saunders—Grier," the date is given as "27th ult." It should have been 27th *inst.*—i. e., Aug. 27th.

COMMUNICATIONS, LETTERS, &c., have been received from—Sir D. Corrigan, Dublin; Mr. Soelberg Wells, London; Mr. C. Wotton, King's Langley; Mr. Forbes, Glasgow; Dr. Heywood Smith, St. Andrews; Dr. Johnston, Fordown; Dr. Blaise, Paris; Mr. Spark, Yorktown; Mr. Parkin, Derby; Mr. J. Hopkins, Llantrissant; Mr. J. Minton, Leeds; Mr. Ellison, Poplar; Dr. Campbell, Liverpool; Mr. Hartry, Dudley; Mr. Fancourt, Tamworth; Mr. Kenworthy, Cromer; Mr. Carpenter, Preston; Mr. Gibbon, Nottingham; Mr. G. Harper, Ipswich; Mr. Jessell, Erith; Mr. G. Ellis, London; Mr. Walker, Birmingham; Dr. Tannahill, Glasgow; Mr. Dawson, Stratford; Mr. Crawford, Grantham; Mr. Walshe, Waterford; Mr. Barber, Plymouth; Messrs. Salt and Son, Birmingham; Mr. Price, Barnsley; Mr. Daniel, Harpurhey; Mr. Davis, Blackheath; Mr. J. Burrows, Rochdale; Mr. Denne, Coleford; Mr. J. Ford; Mr. J. Robertson, Edinburgh; Mr. Ball, Blaenavon; Dr. Hawkes, Alton; Mr. Rose, London; Dr. Kidd, London; Dr. Waters, Liverpool; Mr. Higgins, London; Mr. Hodges, Handsworth; Mr. Maclure, Sandown; Mr. Ledlard, Highgate; Mr. J. Worsley, Preston; Dr. Britton, Halifax; Mr. Hanbury, London; Mr. MacManus, Crewe; Dr. Rawson, Thornton; Mr. Sullivan, Belfast; Mr. G. Crondace, Gorey; Mr. Wilders, Birmingham; Mr. R. Porter, Barton; Dr. Waghorn, Watford; Mr. Bonsor, Derby; Mr. Budgett, Boulogne-sur-Mer; Mr. Boyd, Lyme Regis; Mr. Walwyn, Bristol; Mr. Halket, Sydney; Mr. Smee, London; Mr. Thomas, Bristol; Mr. South, Chatham; Mr. Godfray, London; Mr. Wallis, Stamford; Mr. Reeve, Barking; Mr. Morton, Hampstead; Mr. Bennett, Rochford; Mr. Combes, Belfast; Mr. E. Parkes, London; Dr. Kidd, Ballymena; Mr. Volkman, Royston; Mr. J. Penton, Sheffield; Mr. Wraith, Over Darwen; Mr. Barrett, Grimston; Mr. W. Thomas, Manchester; Mr. Hamilton, Chilham; Mr. Jones, Halifax; Mr. Morgan, Chippenham; Mr. Milford, London; Dr. Martin, Walkden; Mr. R. Hordley, Hartshill; Mr. Green, Northfleet; Mr. Taylor, Bocking; Mr. Saunders, Bristol; Messrs. Cadbury Brothers, Birmingham; Dr. Ross, Waterfoot; Mr. J. Hertafield, Carlisle; Dr. Goodchild, Chelmsford; Dr. Heslop, Birmingham; Dr. Ord, Lewisham; Mr. Wall, Mhow; Dr. Munro, Henley; Dr. Ross, London; Mr. Willing, Great Wakering; Mr. Baker, Stafford; Mr. Lowe, Redhill; Mr. Wilson, Birmingham; Mr. Sharman, Dawlish; Dr. Mackintosh, Downham; Mr. Shepard, Usk; Mr. Marling, Weymouth; Mr. Hands, Wolverhampton; Mr. Law, Newcastle; Mr. R. Herbert, Hull; Mr. Chambers, Exeter; Mr. H. Hawkins, Hythe; Mr. J. Day, Richmond; Mr. Cox, Sutton; Alpha; Medicus; An Observer; A Constant Reader; A West-end Student; C. E. B.; Verax; Query; A Friend of Scroggins; Lex; A Country Practitioner; W. W.; Registered; Æsculapius; L.R.C.P.; Ignoramus; Beta; &c. &c.

Nassau Guardian, Essex Weekly News, Grimsby Herald, Dietetic Reformer, Public Opinion (Malta), *Spiritualist*, and *Congleton Advertiser* have been received.

METEOROLOGICAL READINGS

(Taken by Steward's Instruments).

THE LANCET OFFICE, SEPT. 4TH, 1873.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Wet Bulb.	Dry Bulb	Solar Radia. in Vacuo	Max. Temp. Shade	Min. Temp.	Rain-fall.	Remarks at 8 A.M.
Aug. 29	29·74	S.W.	51	56	...	64	50	0·01	...
„ 30	29·80	S.W.	52	55	...	63	52	...	...
Sept. 1	29·79	S.W.	62	64	...	68	54	0·10	...
„ 2	29·80	W.	55	58	...	69	48	0·03	...
„ 3	30·02	N.W.	51	56	...	65	48	0·44	...
„ 4	30·07	N.W.	52	55	...	...	...	...	...

Medical Diary of the Week.

Monday, Sept. 8.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations on the Eye, 1½ P.M.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.

Tuesday, Sept. 9.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.

Wednesday, Sept. 10.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. MARY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
LONDON HOSPITAL.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2½ P.M.
CANCER HOSPITAL.—Operations, 3 P.M.

Thursday, Sept. 11.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Friday, Sept. 12.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
GUY'S HOSPITAL.—Operations, 1½ P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, Sept. 13.

HOSPITAL FOR WOMEN, Soho-square.—Operations, 9½ A.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, 10½ A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M.
KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M.
ROYAL FREE HOSPITAL.—Operations, 9 A.M. and 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.

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